The **User Experience** of **Game Development Tools**

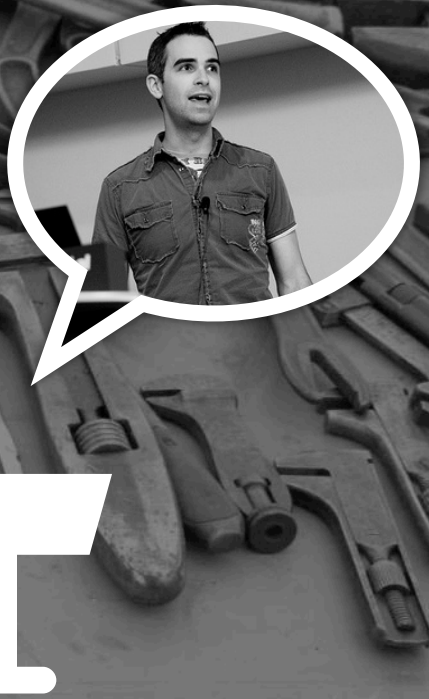
Merci
Thank you
Danke

Audience Participation

Free Game!

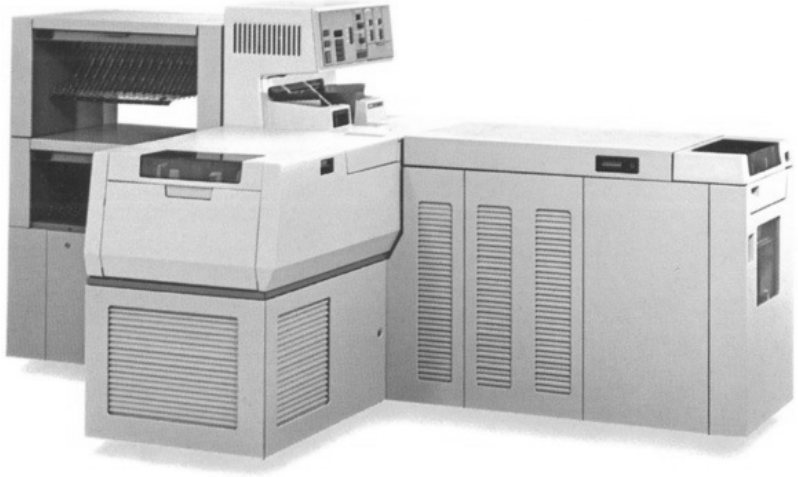
David Lightbown

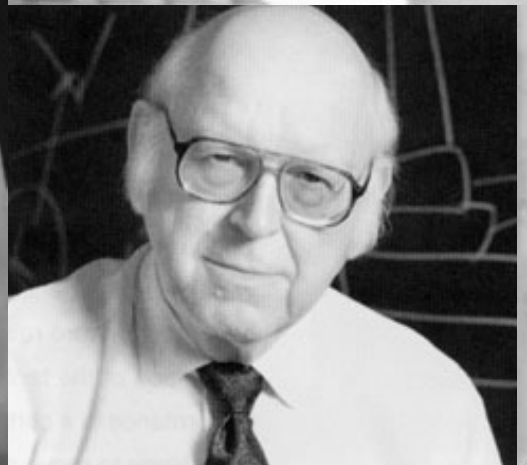
User Experience
Director
Technology Group
Ubisoft Montreal



Direct
Connectio

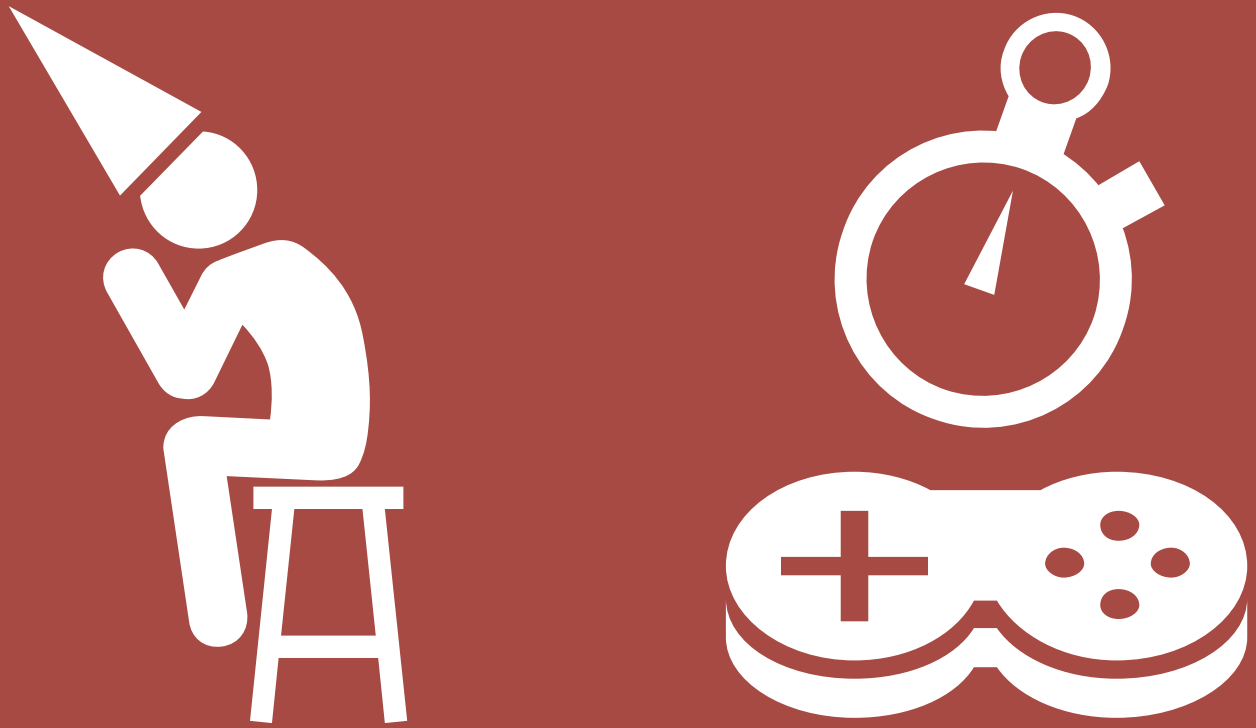
XEROX®

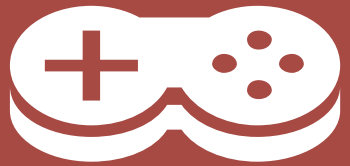




Start

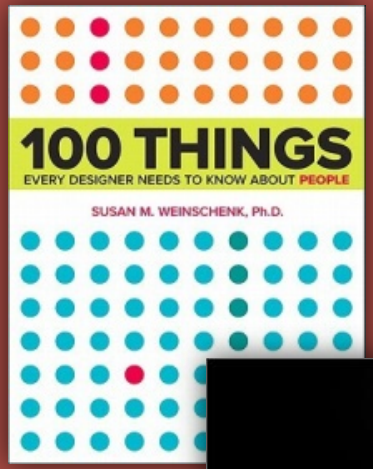
1

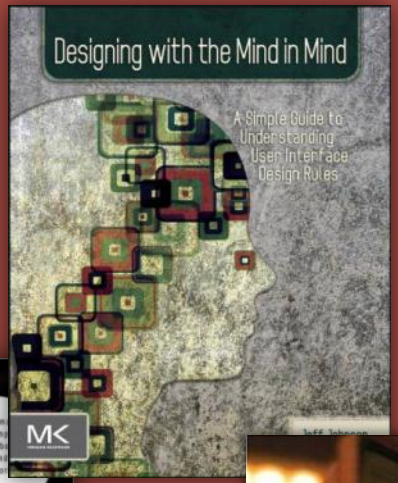


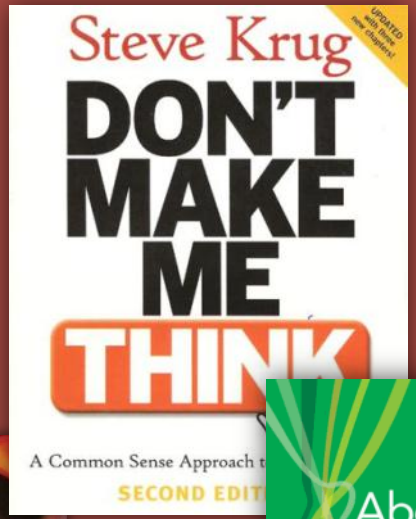


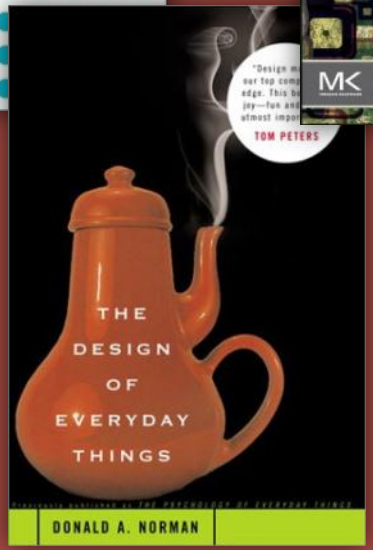
TOOLS	PRODUCTION	REWORK

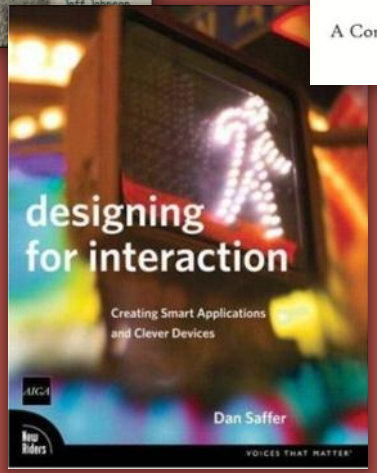
TOOLS	PRODUCTION	REWORK

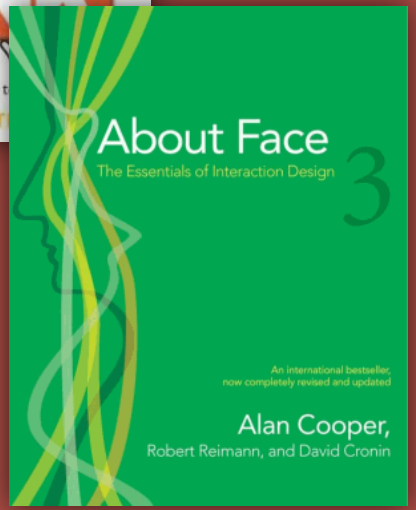

100 THINGS
EVERY DESIGNER NEEDS TO KNOW ABOUT PEOPLE
SUSAN M. WEINSCHENK, Ph.D.

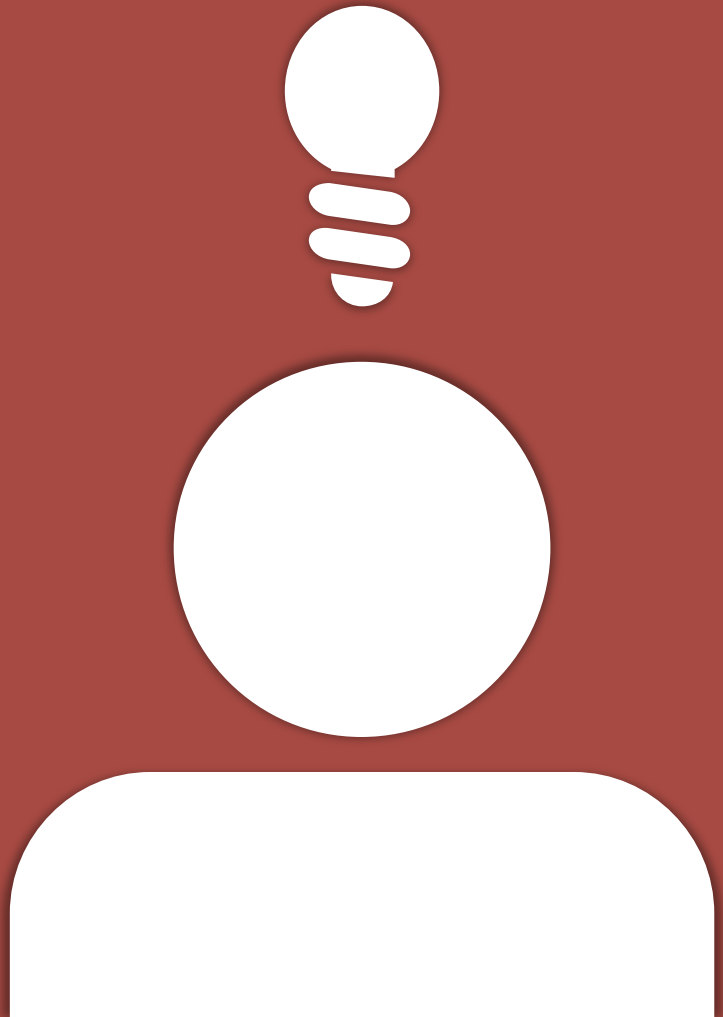

Designing with the Mind in Mind
A Simple Guide to Understanding User Interface Design Rules


Steve Krug
DON'T MAKE ME THINK
A Common Sense Approach t
SECOND EDIT


TOM PETERS
THE DESIGN OF EVERYDAY THINGS
DONALD A. NORMAN


designing for interaction
Creating Smart Applications and Clever Devices
Dan Saffer
VOICES THAT MATTER


About Face
The Essentials of Interaction Design
3
An international bestseller, now completely revised and updated
Alan Cooper,
Robert Reimann, and David Cronin



The **games industry**
needs to make
the **user experience**
of **tools**
a **priority**

CREATIVE
NOMAD

MENU

Google
Canada

Google Search I'm Feeling Lucky

Why do we need to do this?

Game Developers Conference
March 9-13, 2010
Moscone Center
San Francisco, CA
www.GDConf.com
GDC 10
Learn. Network. Inspire.
Level Design in a Day
Tools: Making a Better Game
Jim Brown, Lead Level Designer, Epic Games
EPIC GAMES

200

DEVELOPERS

20

MINUTES

200

DEVELOPERS

20

MINUTES

66

HOURS / DAY

200

DEVELOPERS

20

MINUTES

320

HOURS / WEEK

200

DEVELOPERS

20

MINUTES

18,000

HOURS / YEAR

200

DEVELOPERS

20

MINUTES

100

MONTHS / YEAR

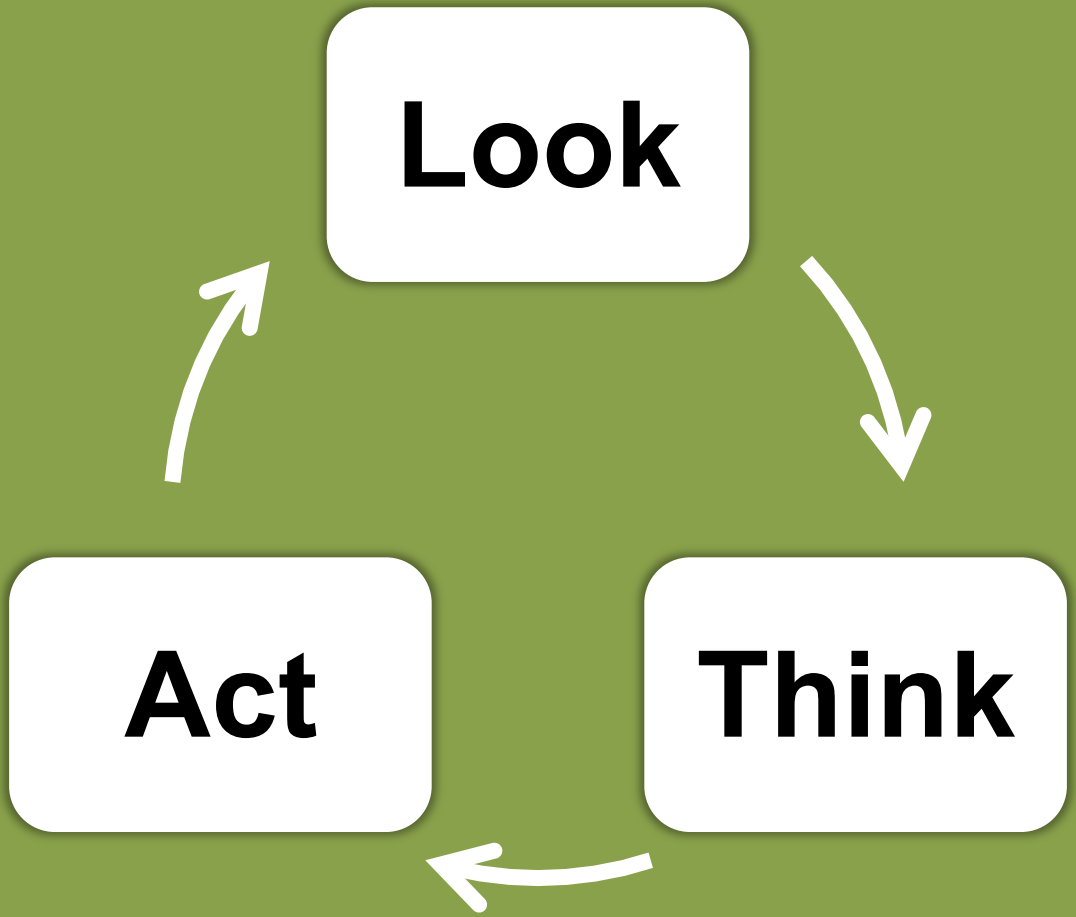
$10,000

PER MAN MONTH

When 200 game developers save 20 minutes per day...
They save 100 man months
or $11,000,000 every year

1

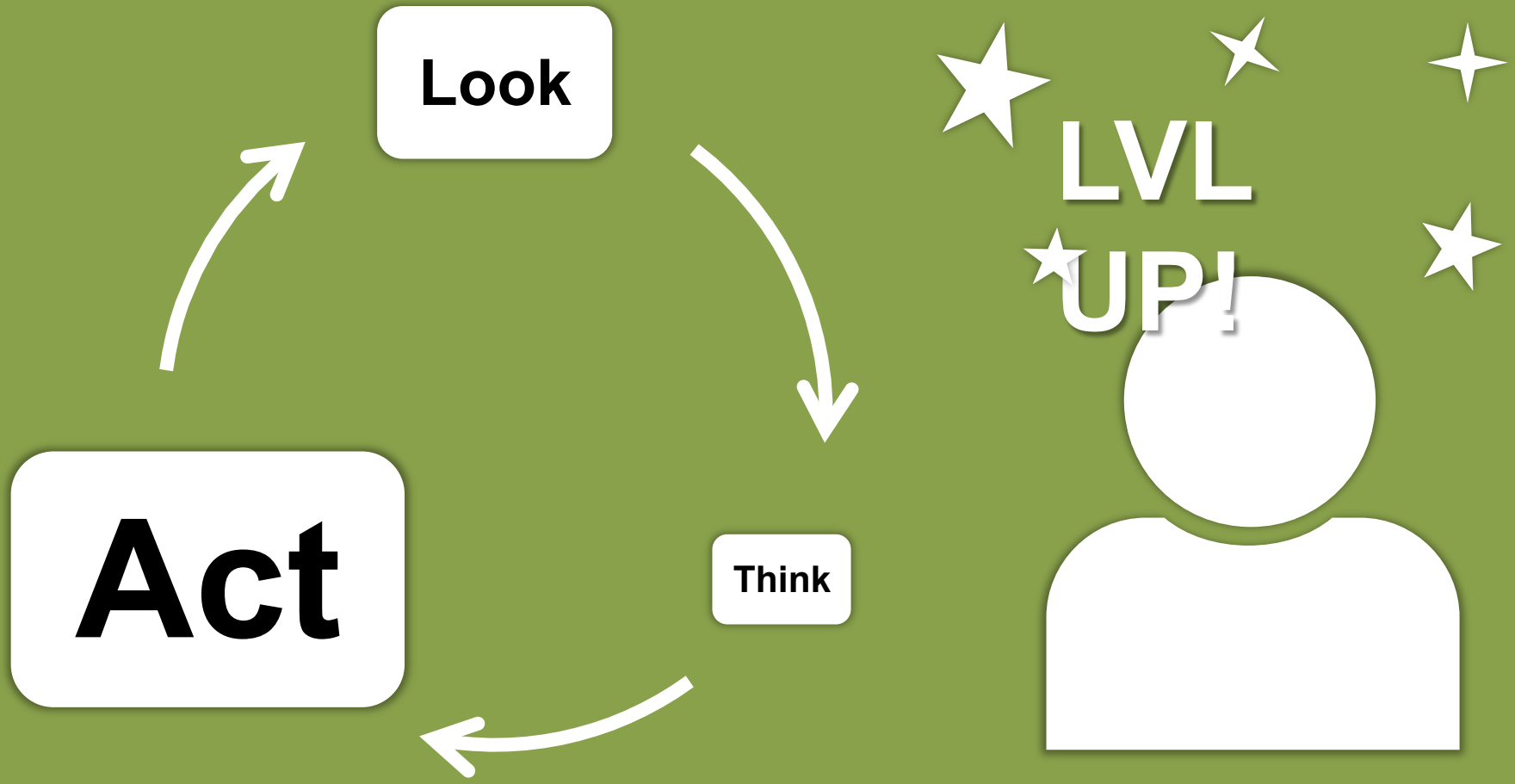
Why is this happening?

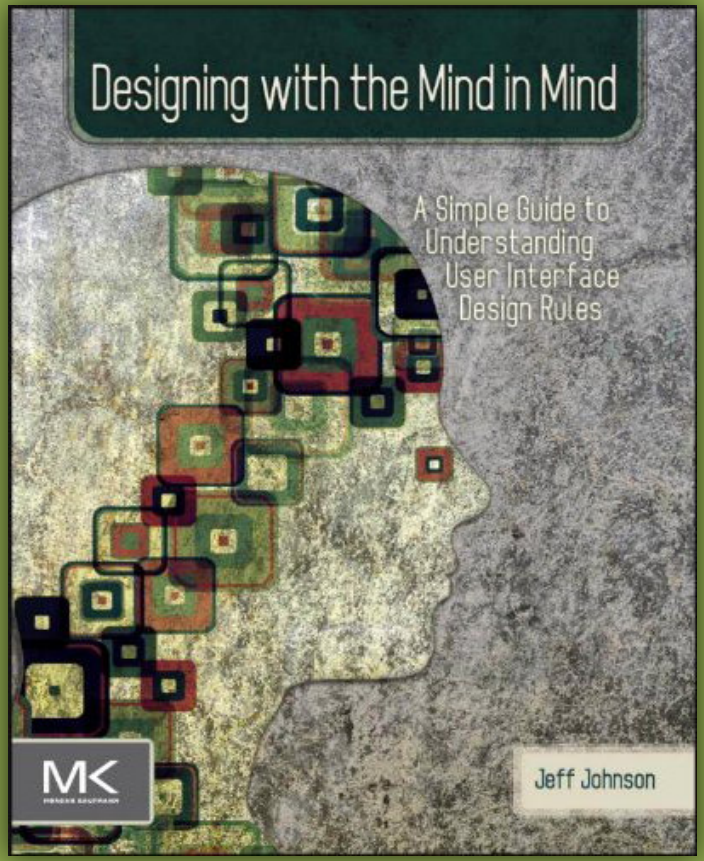

Look
Think
Act

Look

Think

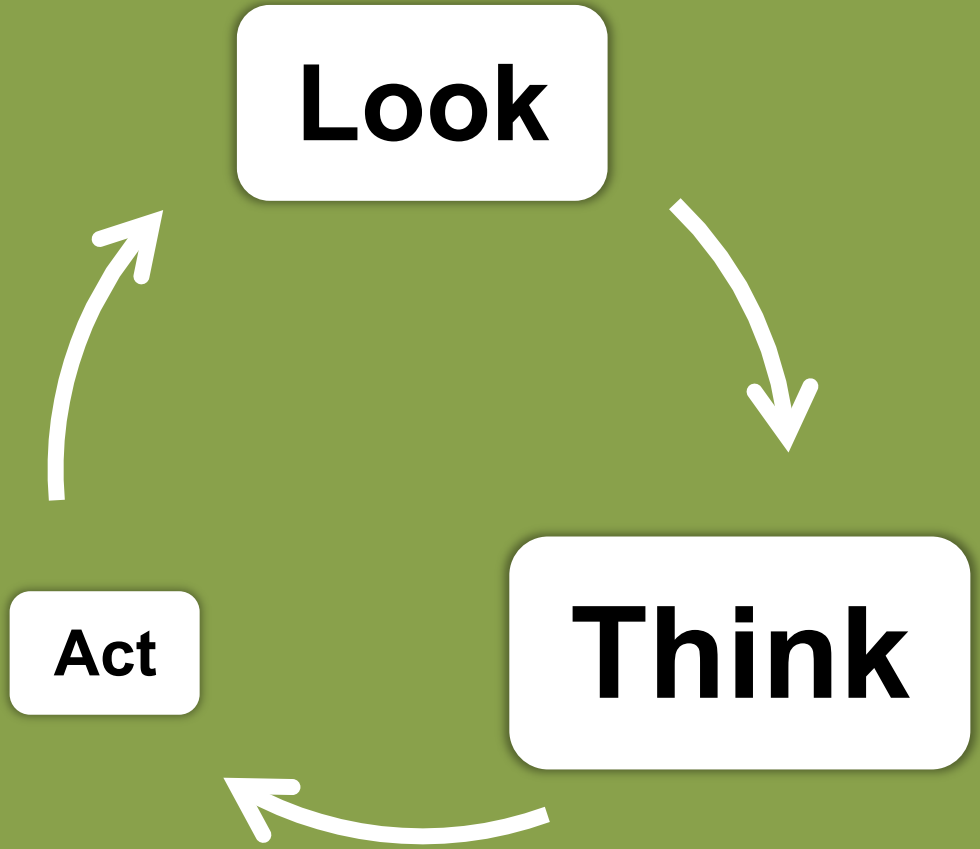
Act

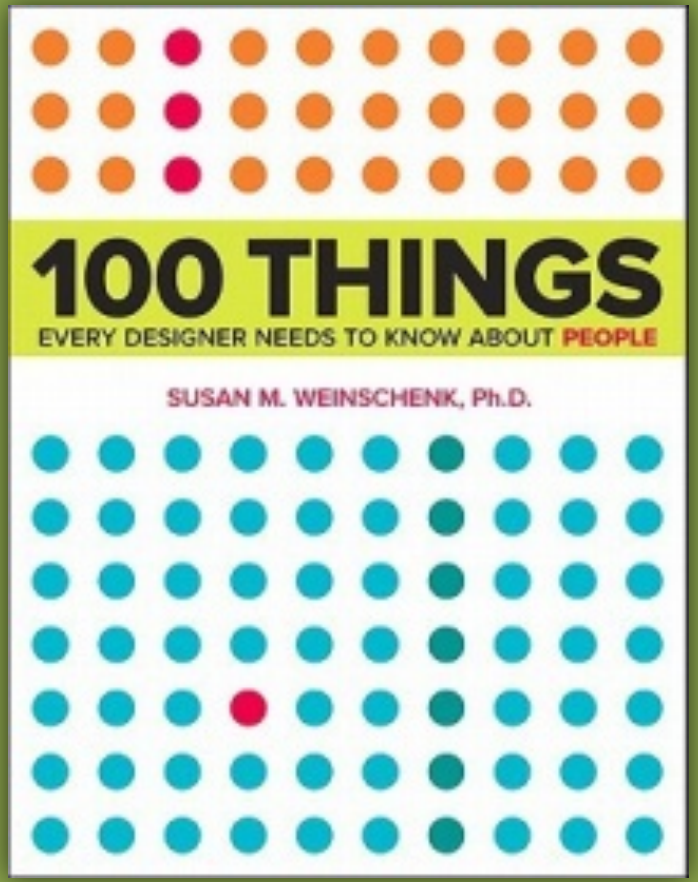

Look
Think
Act
LVL
UP!


Designing with the Mind in Mind
A Simple Guide to Understanding User Interface Design Rules
Jeff Johnson

"I'm in a **hurry**…

So I'll do it the **long way**."


Look
Think
Act


100 THINGS
EVERY DESIGNER NEEDS TO KNOW ABOUT PEOPLE
SUSAN M. WEINSCHENK, Ph.D.

Think

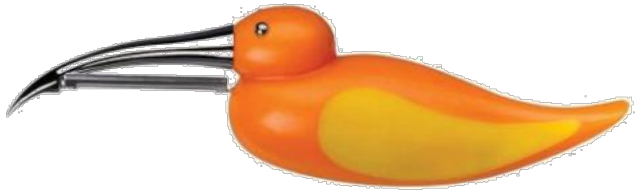
Look

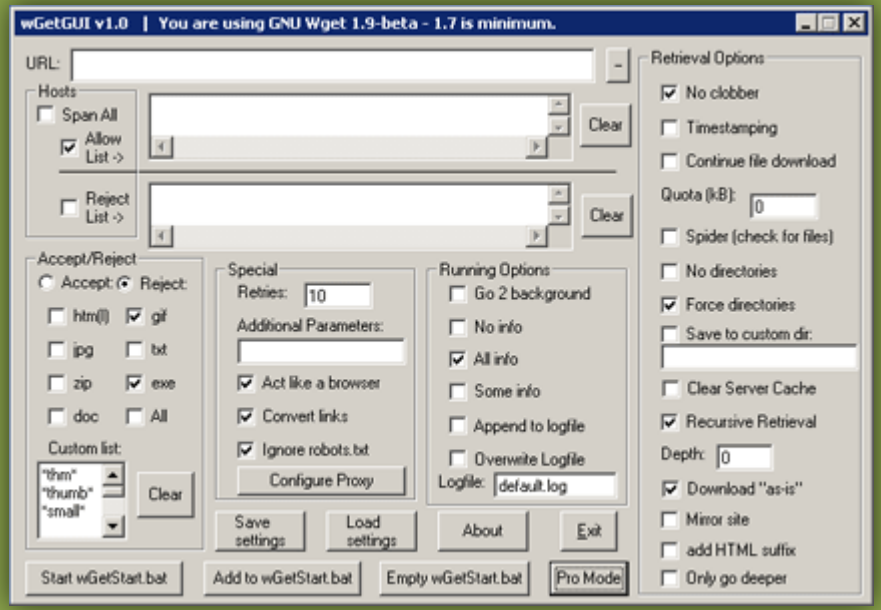
Act

Look

Think

Act




wGetGUI v1.0 | You are using GNU Wget 1.9-beta - 1.7 is minimum.
URL:
Hosts
Span All
Allow List ->
Reject List ->
Clear
Clear
Accept/Reject
Accept:
Reject:
htm(l)
gif
jpg
txt
zip
exe
doc
All
Custom list:
"thm"
"thumb"
"small"
Clear
Special
Retries:
10
Additional Parameters:
Act like a browser
Convert links
Ignore robots.txt
Configure Proxy
Running Options
Go 2 background
No info
All info
Some info
Append to logfile
Overwrite Logfile
Logfile:
default.log
Retrieval Options
No clobber
Timestamping
Continue file download
Quota (kB):
0
Spider (check for files)
No directories
Force directories
Save to custom dir:
Clear Server Cache
Recursive Retrieval
Depth:
0
Download "as-is"
Mirror site
add HTML suffix
Only go deeper
Save settings
Load settings
About
Exit
Start wGetStart.bat
Add to wGetStart.bat
Empty wGetStart.bat
Pro Mode

There was an unexpected error in the property page:
The transfer syntax is not supported by the RPC server.
(0x800706C2)
Please close the property page and try again.
OK

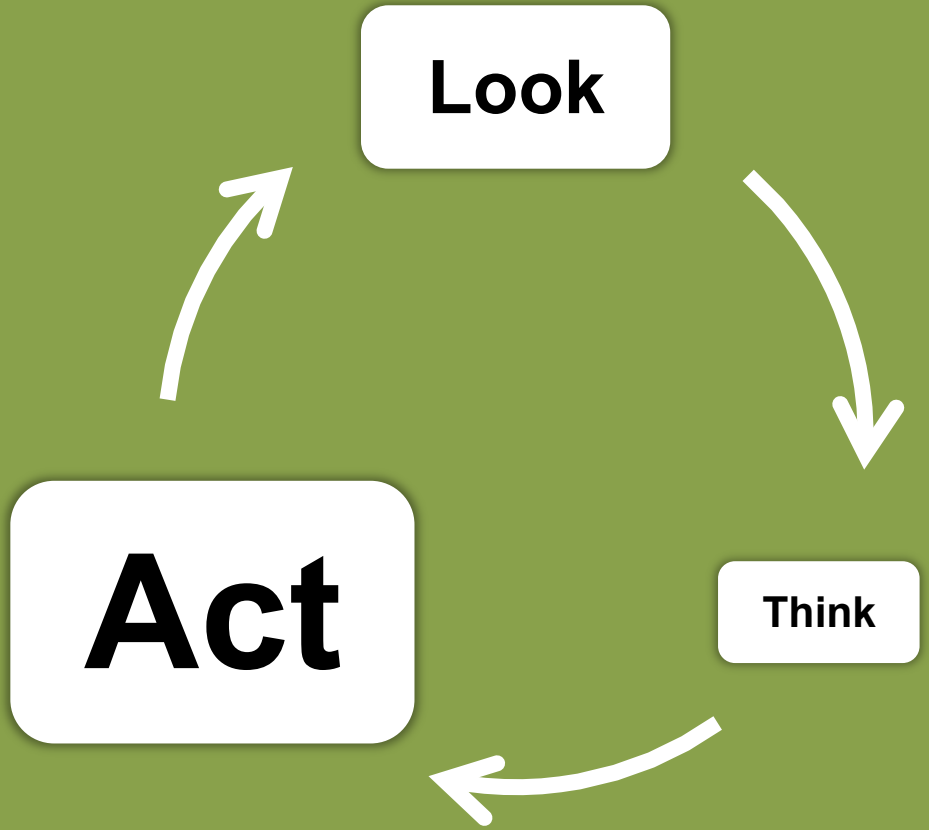
Steve Krug

UPDATED with three new chapters!

DON'T MAKE ME THINK

A Common Sense Approach to Web Usability

SECOND EDITION

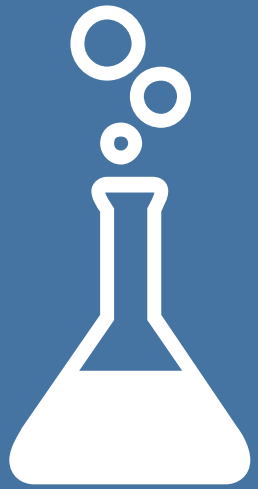

Look
Think
Act

How can we do this?

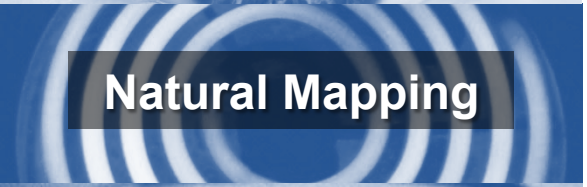
User Experience

UX

Art & Science



Visual Language


Natural Mapping

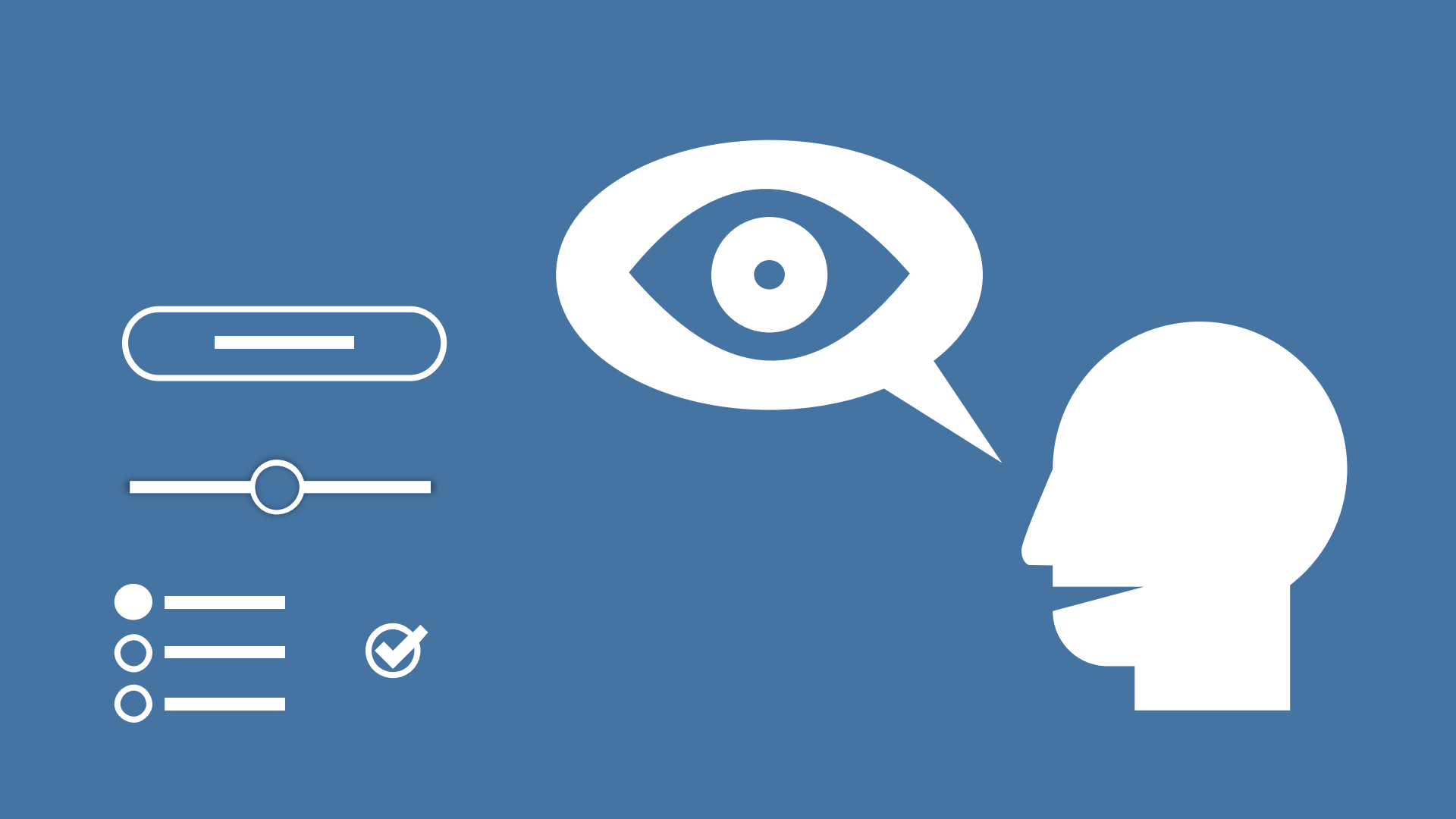
Feedback

Excise

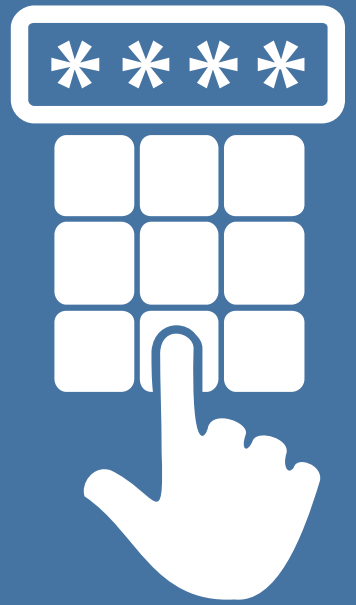
Representation

Progressive
Disclosure

Visual Language
296
11 7 6 9
8 10 10 5



PIN

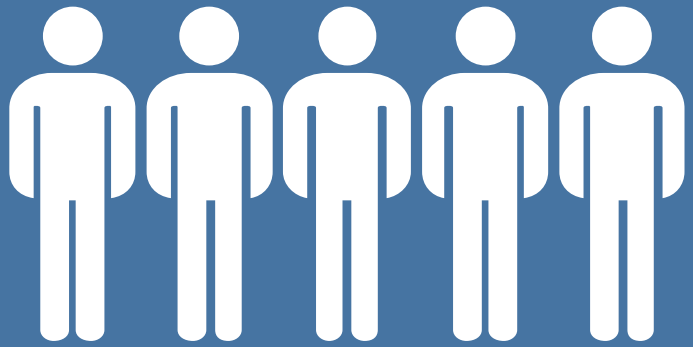


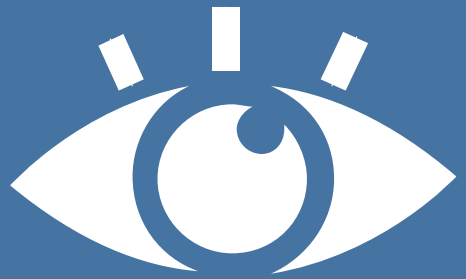
OK

WARNING

DANGER

```
public class MyGame : Game
{
    Mesh mesh;

    public override void InitPre()
    {
        App.Name = "Hello World";
        App.Flag = AppFlags.Ms_Exclusive|AppFlags.Full_Toggle;

        Paks.Add("C:/Users/Kevin/Desktop/Libs/EsenthelEngineSDK/Data/engine.pak");
        IOPath = "C:/Users/Kevin/Desktop/Libs/EsenthelEngineSDK/Data";
        D.Mode(800, 600);
        D.Sync = true;
    }

    public override bool Init()
    {
        mesh = new Mesh();
        mesh.Create(1).Base(0).Create(new Ball(1), MeshBaseFlags.VTX_TEX0 | MeshBaseFlags.VTX_NRM | MeshBaseFlags.VTX_TNG
        mesh.SetMaterial(Material.Cache("mtrl/brick/0.mtrl")).SetRender();

        Cam.Dist = 6;
        Sky.Atmospheric();

        return true;
    }

    public override void Shut()
    {

    }

    public override bool Update()
    {
        if (Kb.IsPushed(KeyboardButtons.Escape))
            return false;

        Cam.Handle(1.5f, 10.0f, CameraHandleFlags.Rotate | CameraHandleFlags.Zoom);

        return true;
    }

    public void Render() {
        switch (Renderer.Get())
        {
            case RenderMode.RM_PREPARE:
```

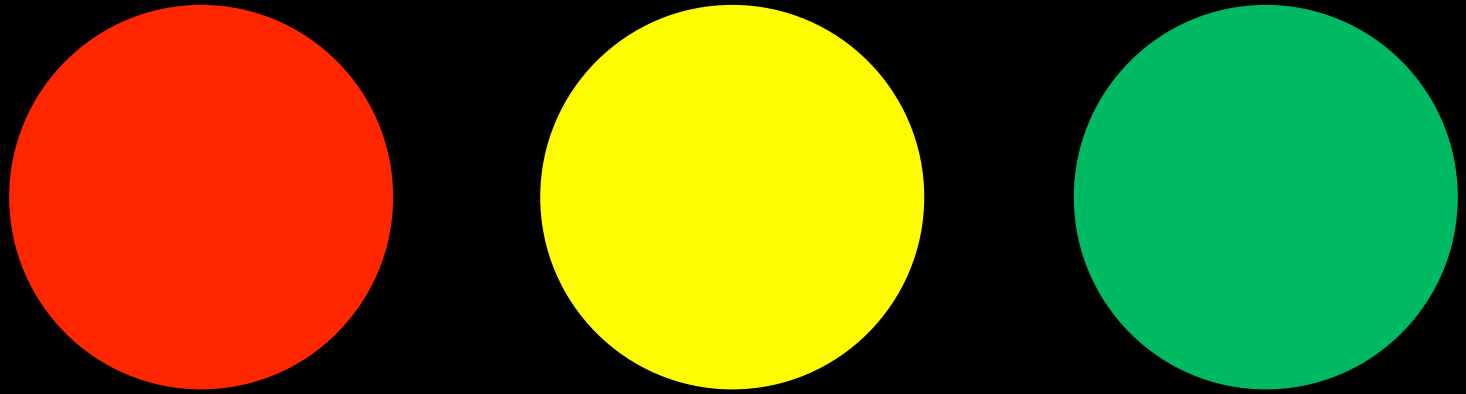


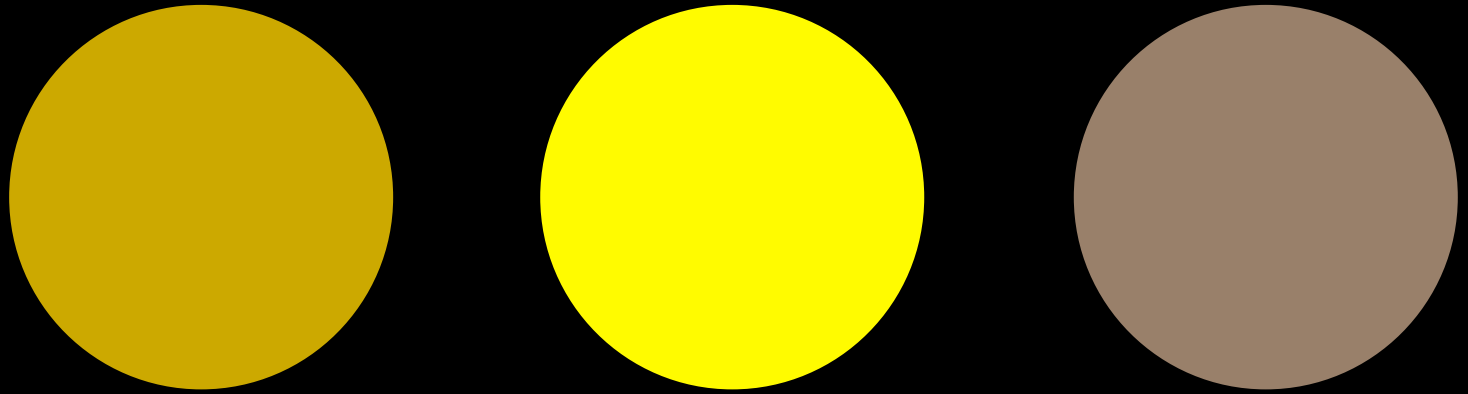


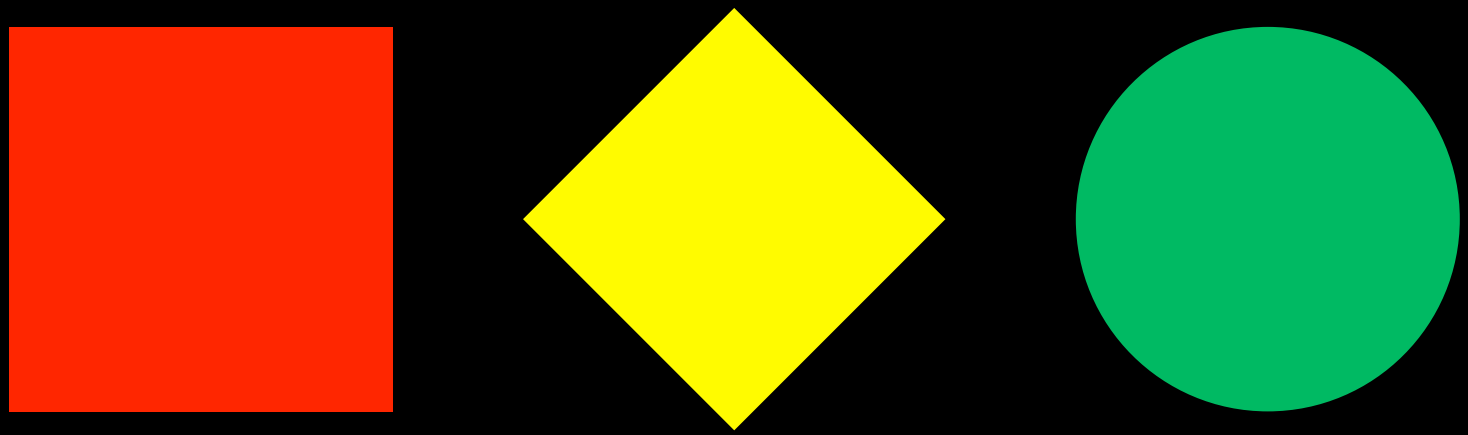
7%

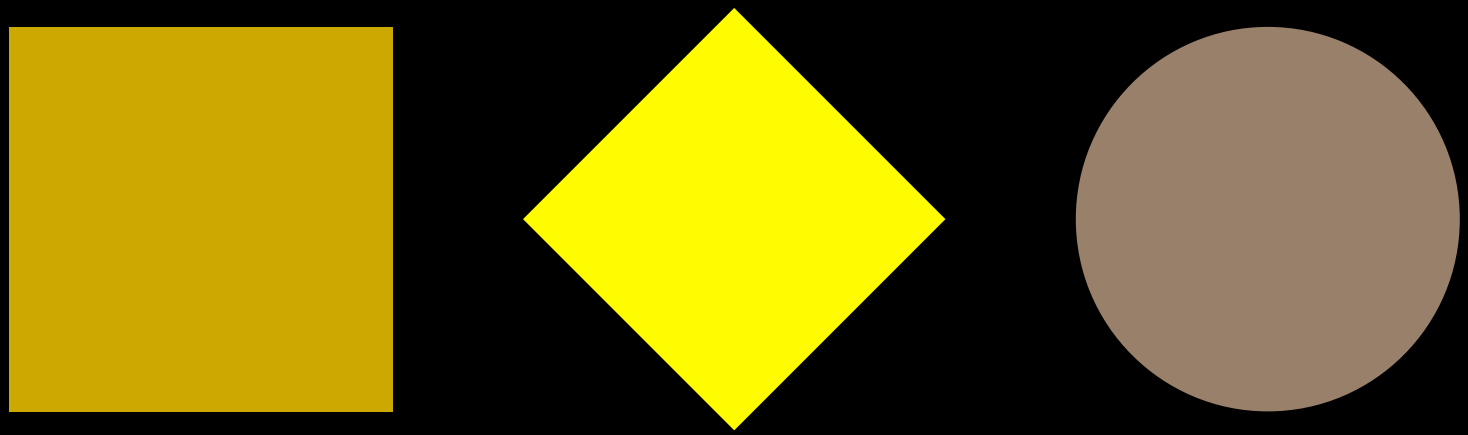
25 million men

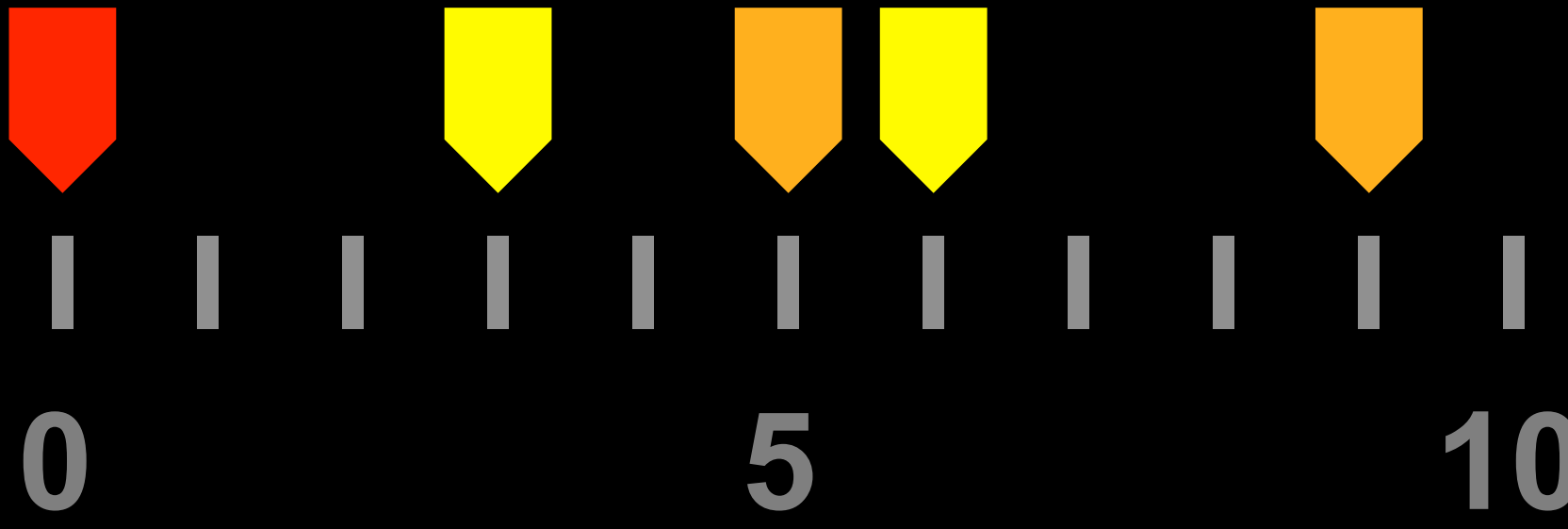
in Europe










0
5
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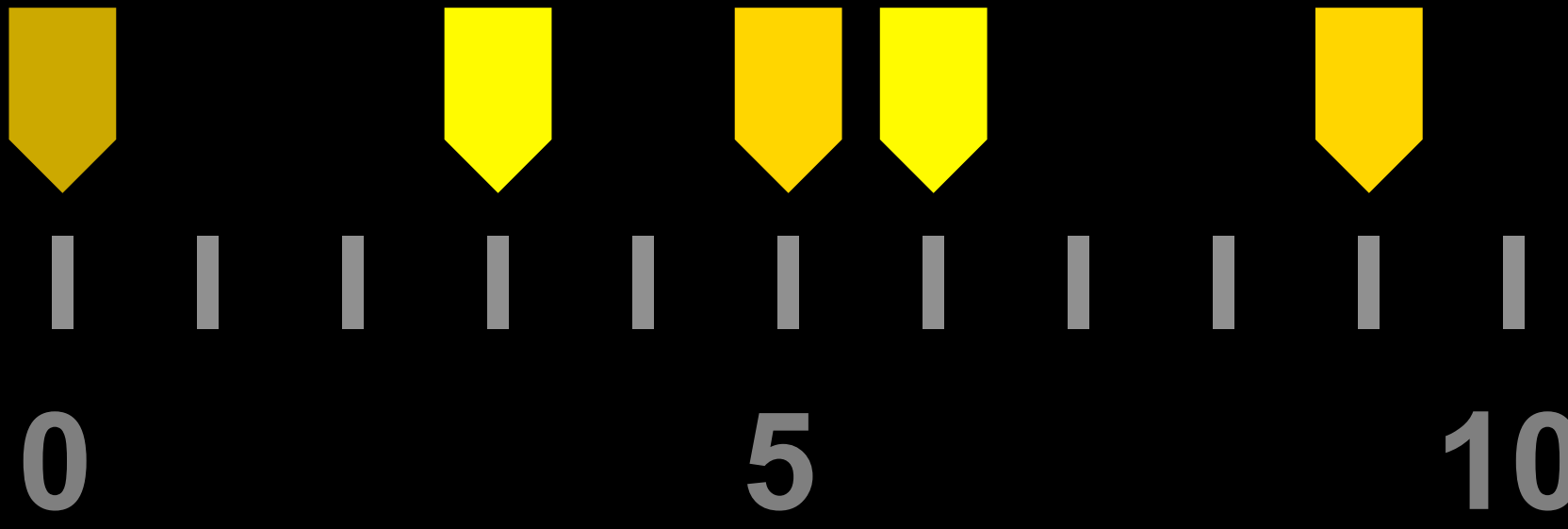
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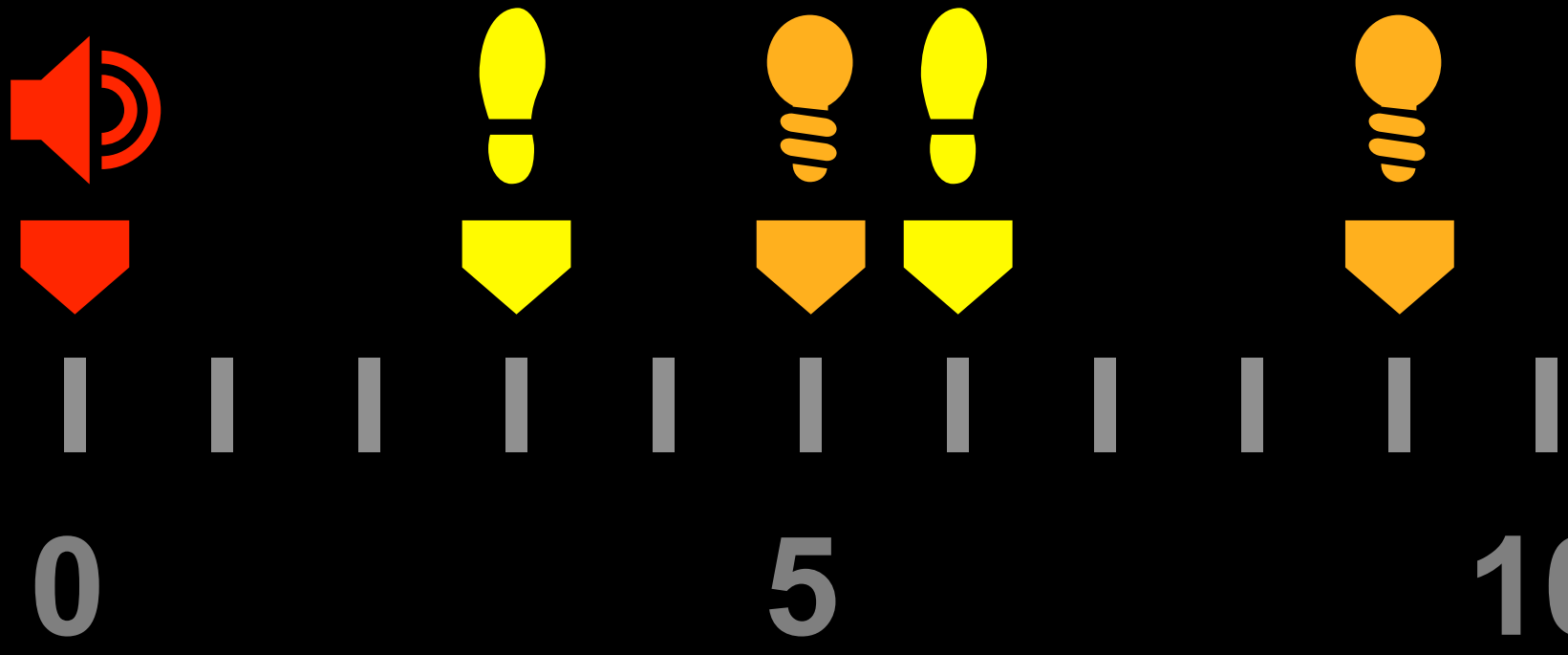
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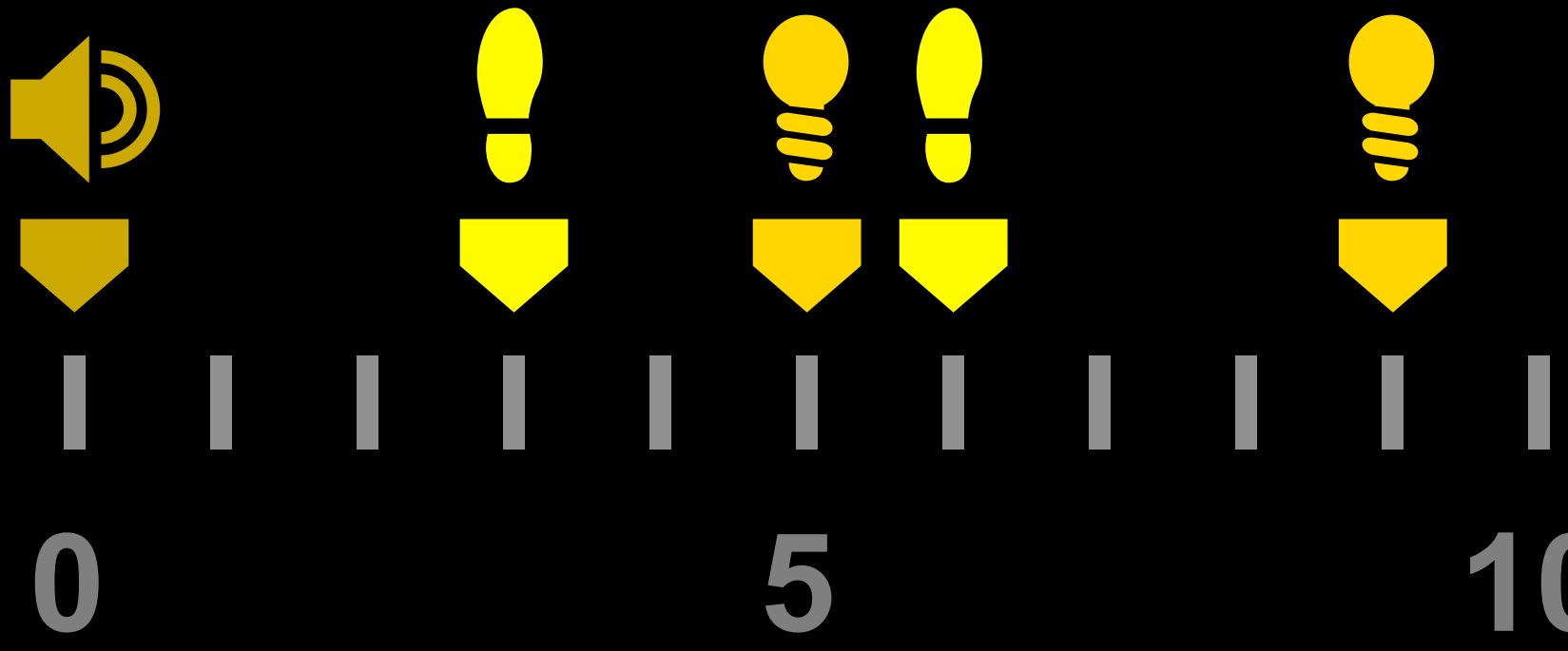
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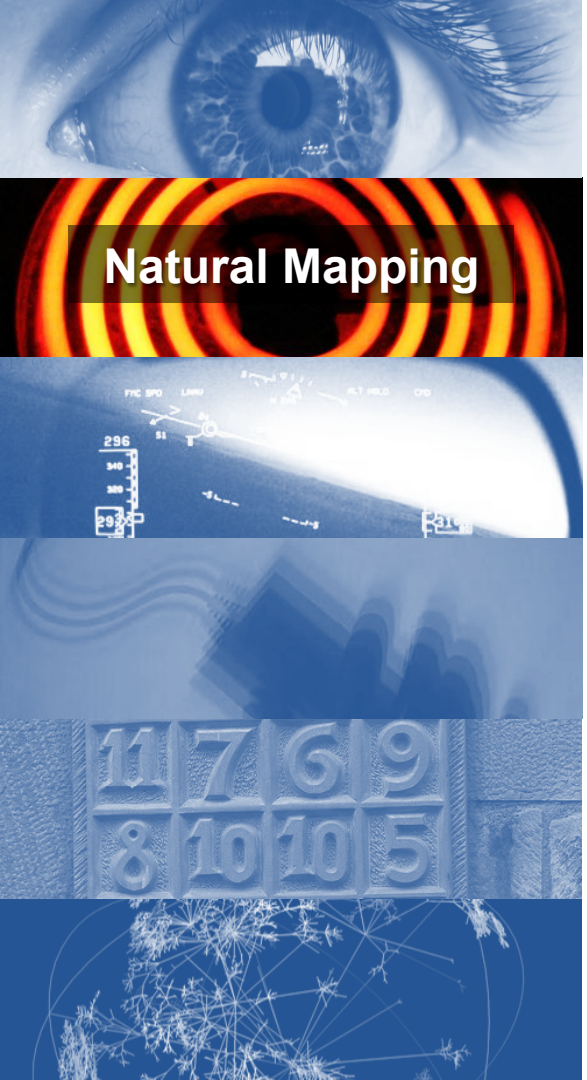
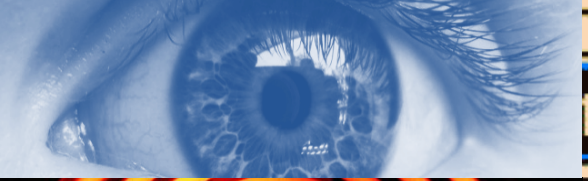
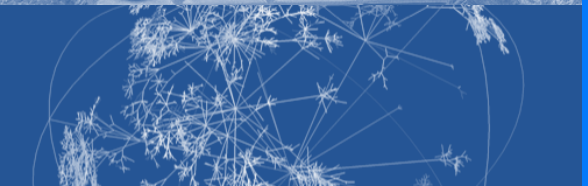

Natural Mapping

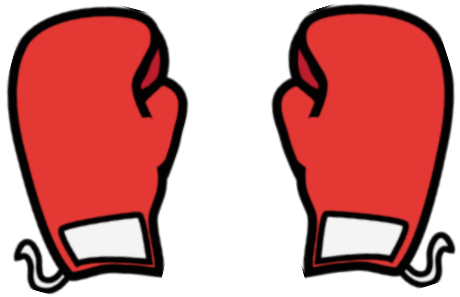


Natural Mapping

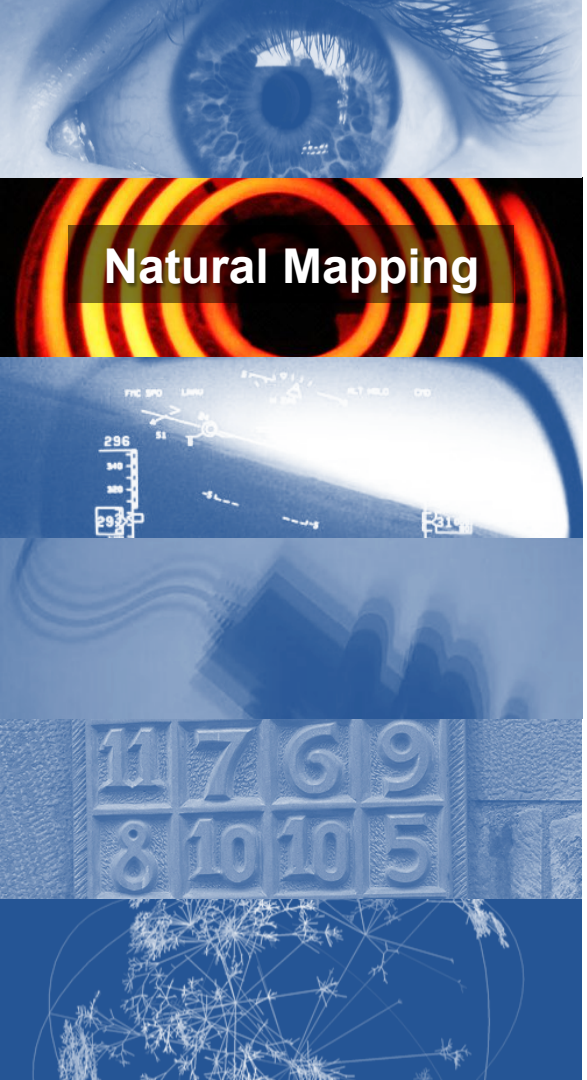
11 7 6 9
8 10 10 5



14
POINTS: 201
TKO



Nintendo®
B
A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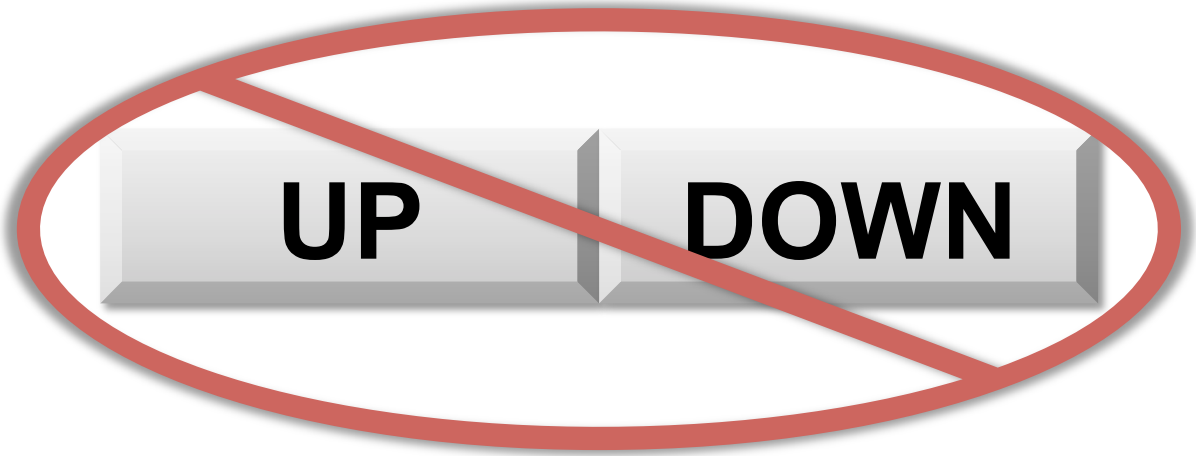
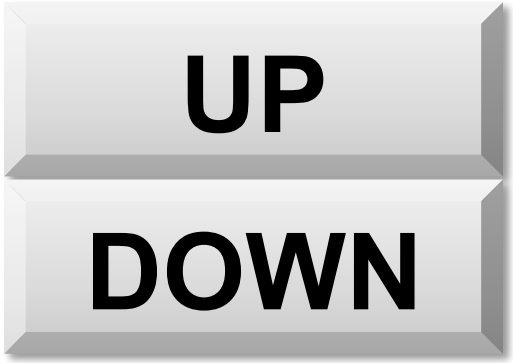
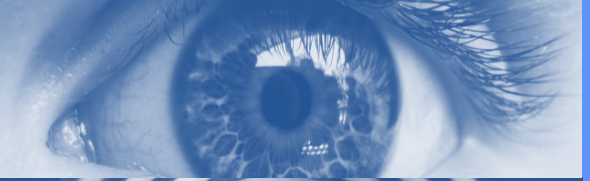

UP
DOWN


UP
DOWN

Feedback

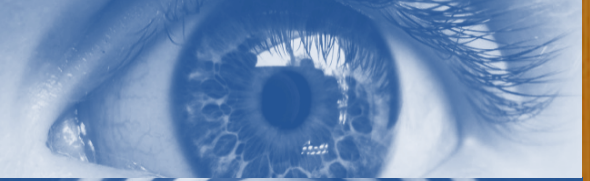


Feedback

11 7 6 9
8 10 10 5

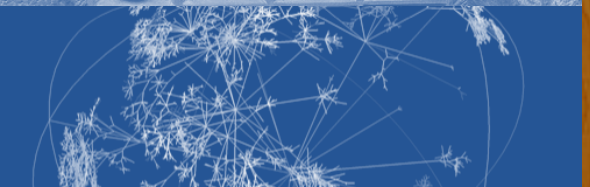
Feedback

Excise



Excise

11 7 6 9
8 10 10 5



Nintendo®
SELECT START
B
A

Excise
Nintendo
SELECT START
B
A

Document No	Date	Amount	Transaction	Narration

Financial Transac

Transaction: Sales

Doc. No.: SALE/020/02-03 | Date: 05/07/2002 | Entity:

Bill No.: | Date: / / | Location: Office

Party: | Order Ref.No.:

Account Details | Invoice Details | Form Details

	Account Name	Dr. Amt	Cr. Amt	Narratio
Cr	ocal Sales			

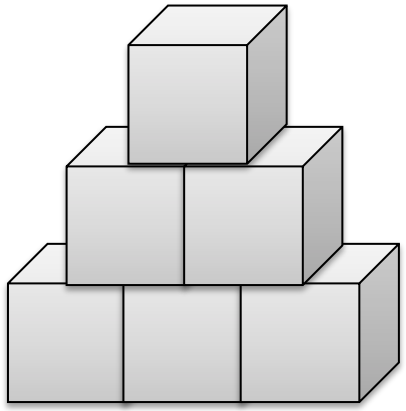
Item Details For Local Sales

Item	Qty	Free Qty	Unit	Rate	Amount	Discount	Tax	Net
PRestige 100IH ISDN Router batch	2	0	Pc.	16500	33000	0.00	0.00	3

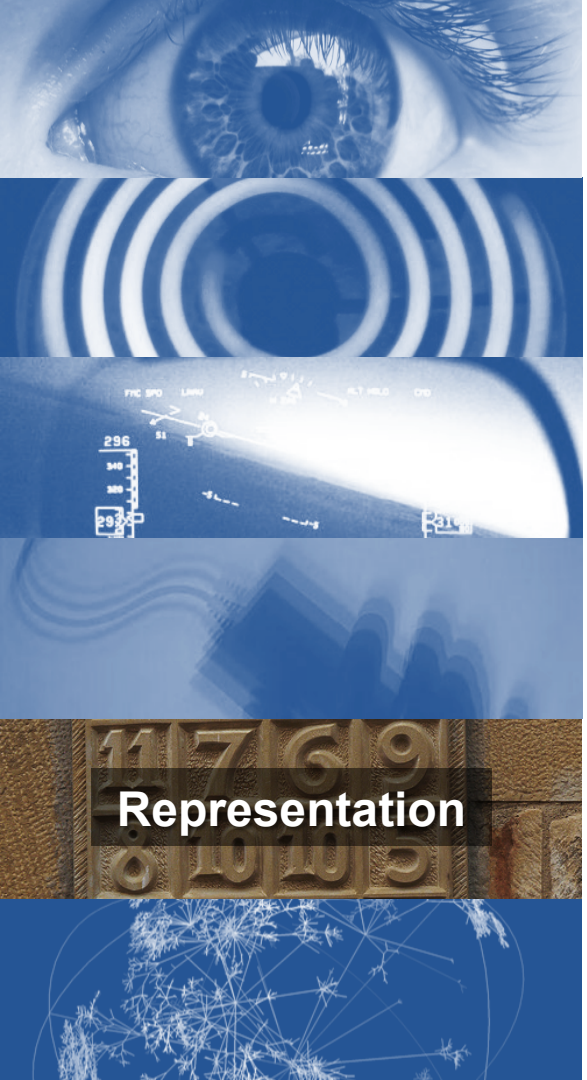
Batch Item

No.	Batch No.	Details	Date	Remark	Quantity
1	dcvx				2

Cancel | OK



Controls


Representation

F

K

C

I

B

A

G

I

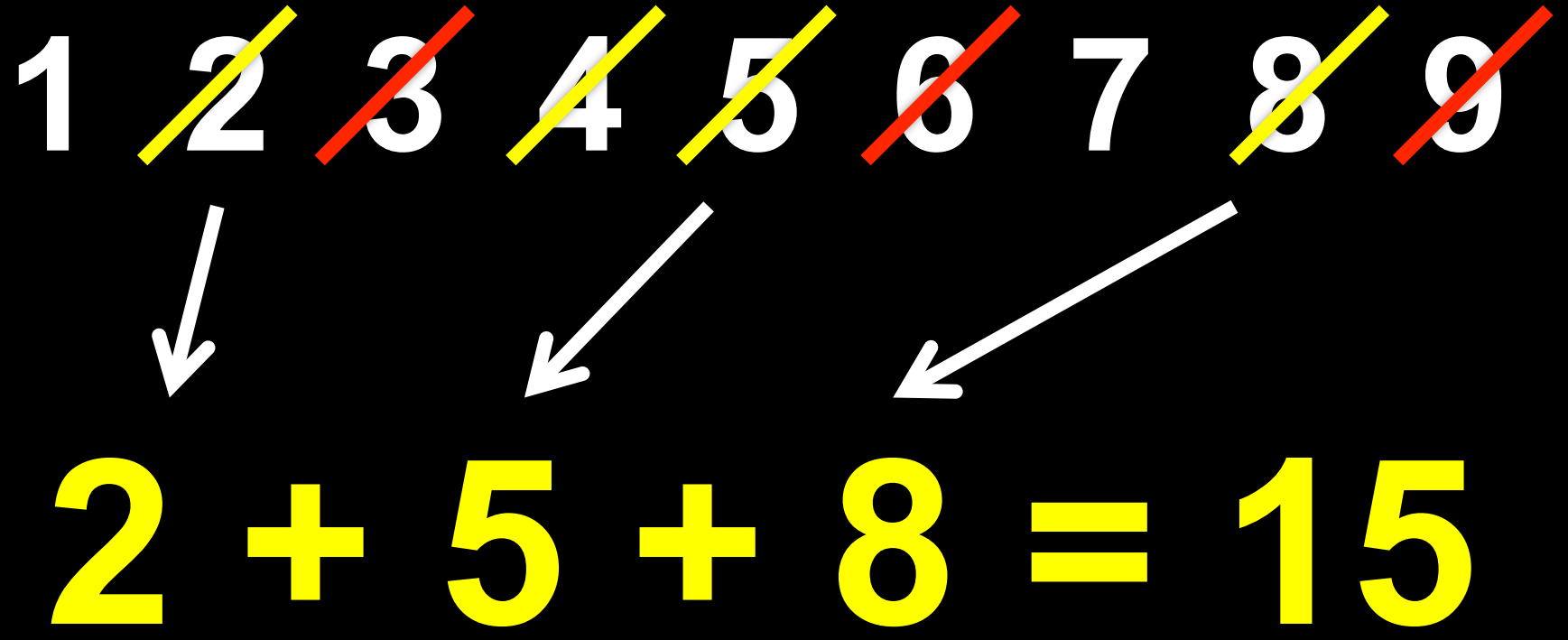
M

9

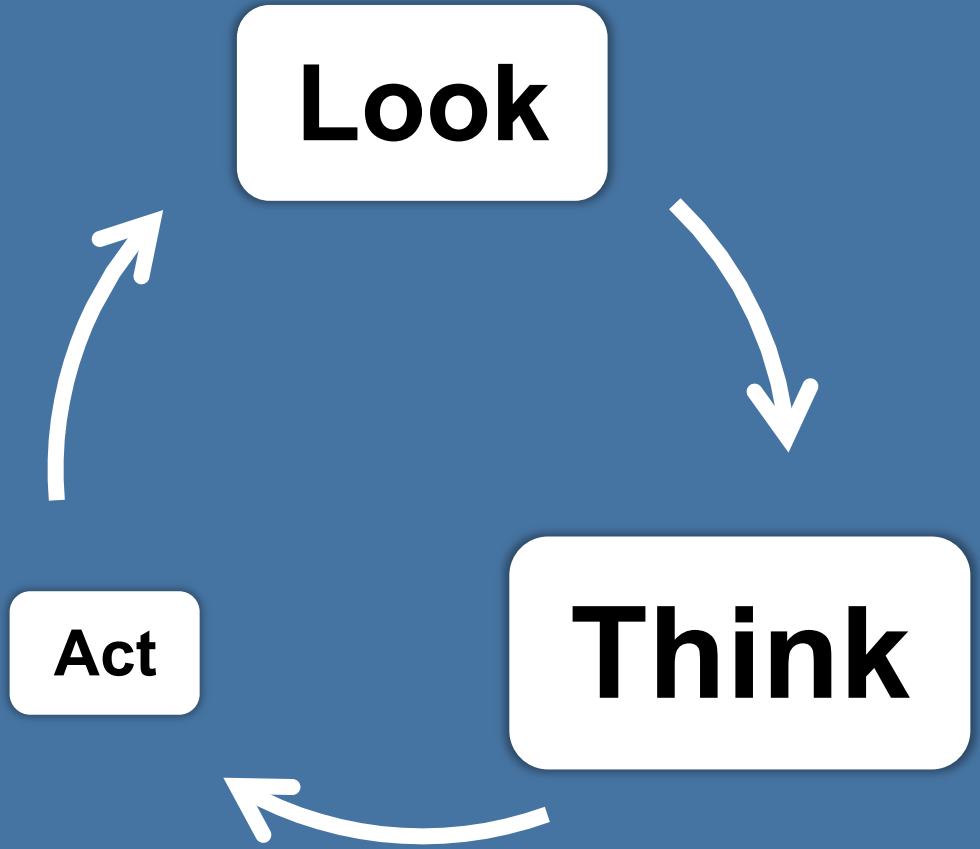
B

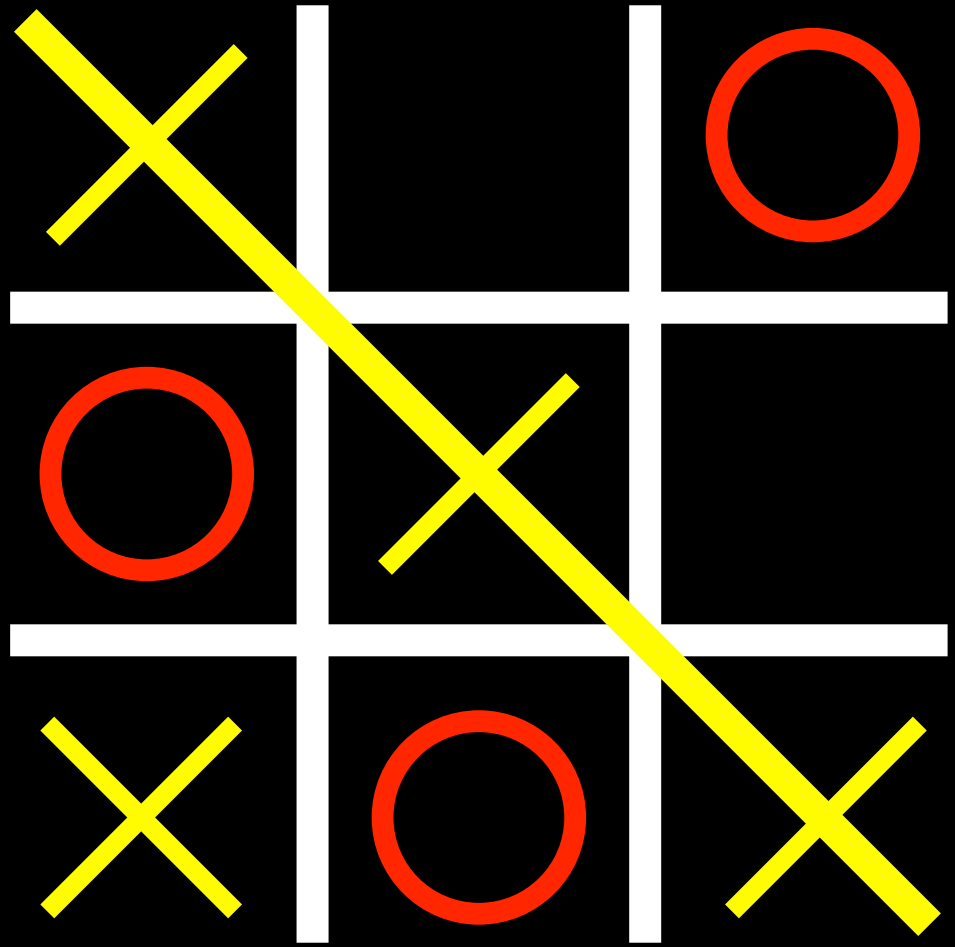
FBI KGB

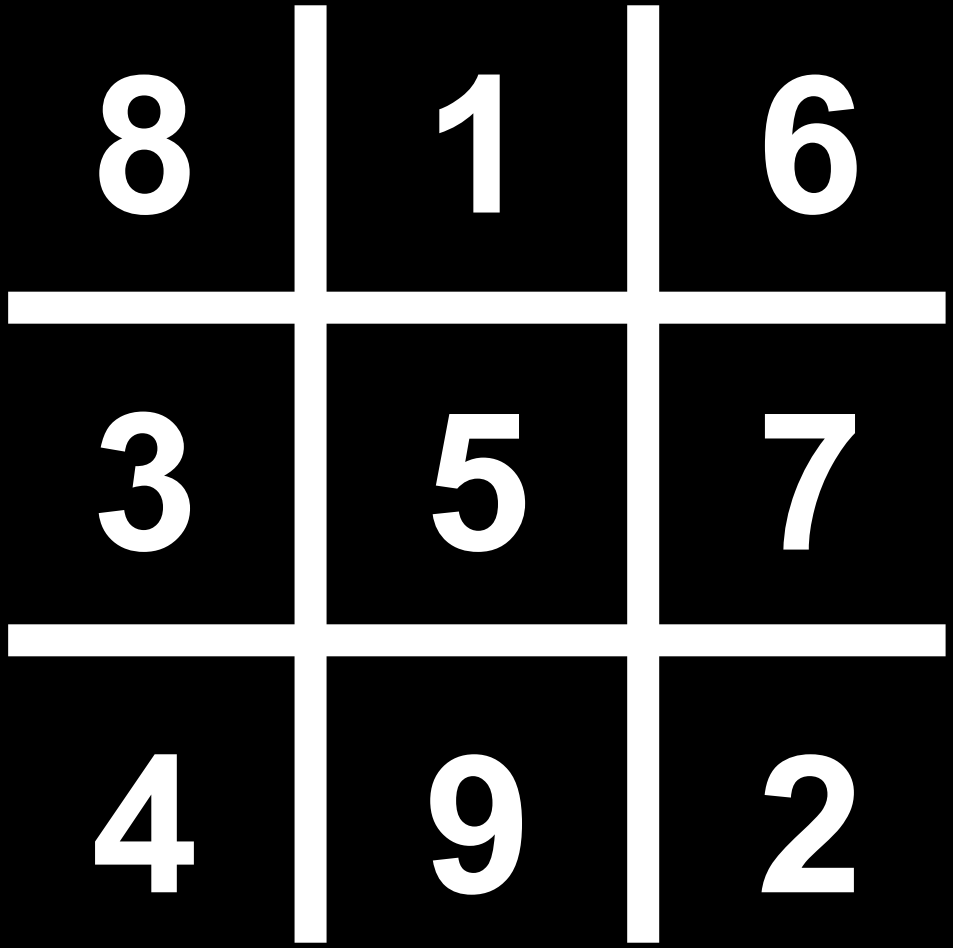
CIA MI6

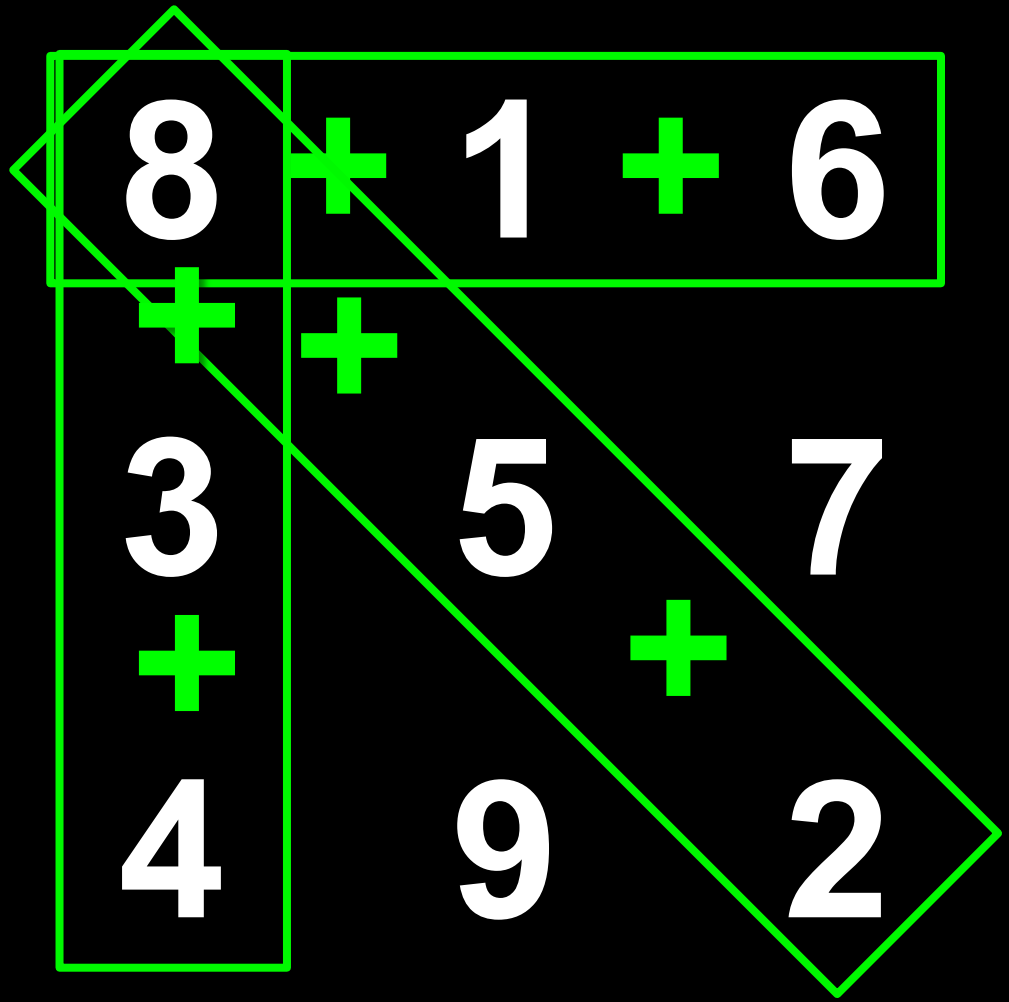

1 2 3 4 5 6 7 8 9
2 + 5 + 8 = 15

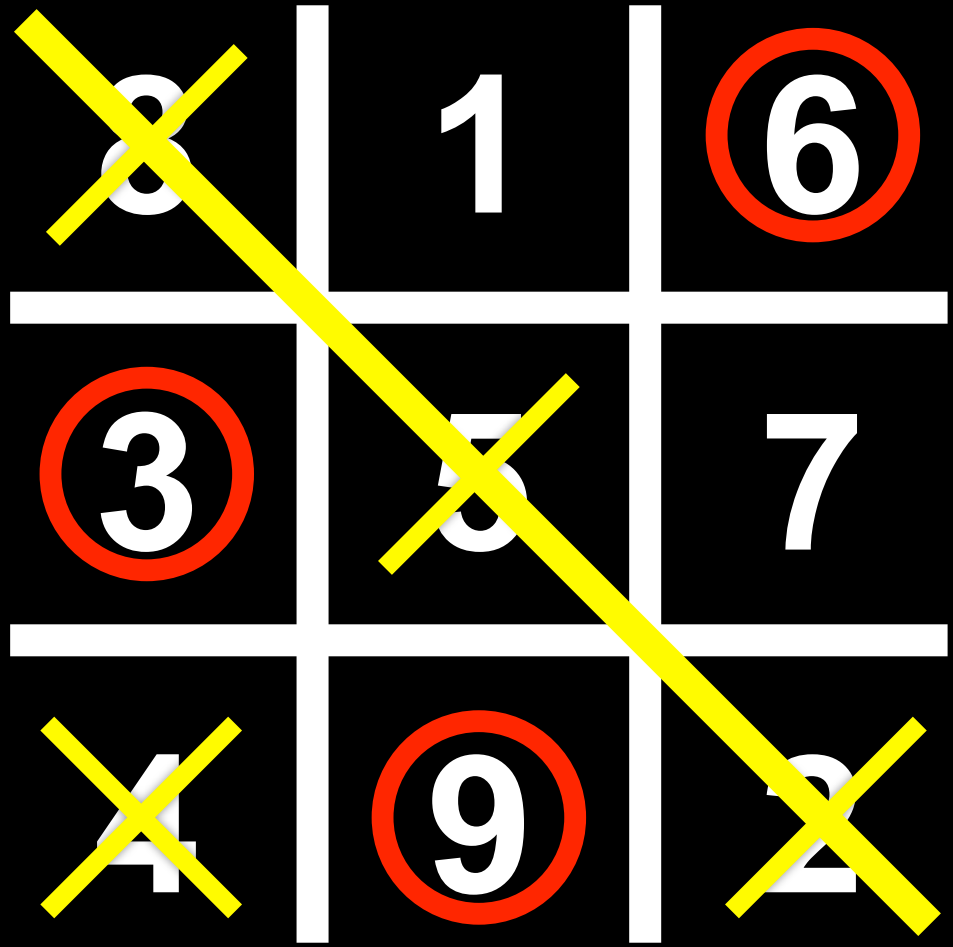
1 2 3 4 5 6 7 8 9

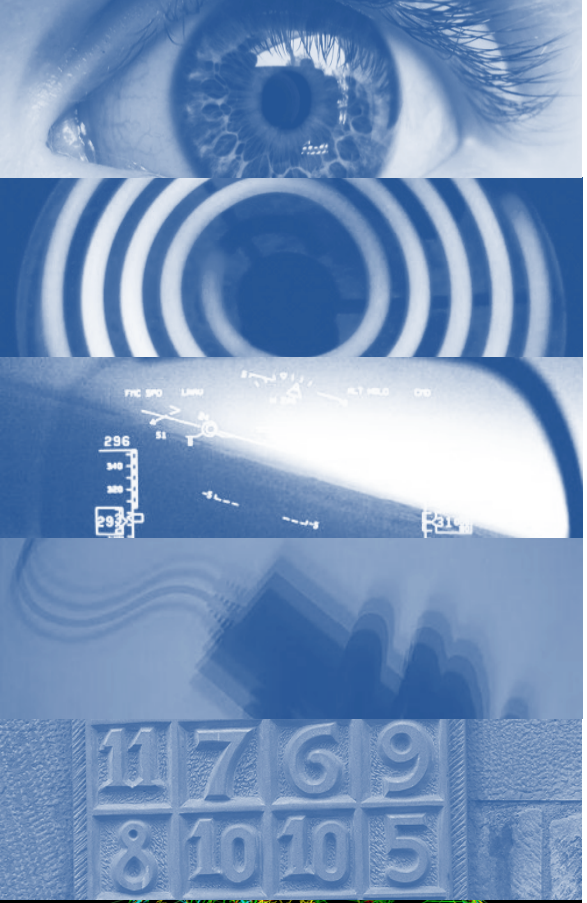

Look
Think
Act



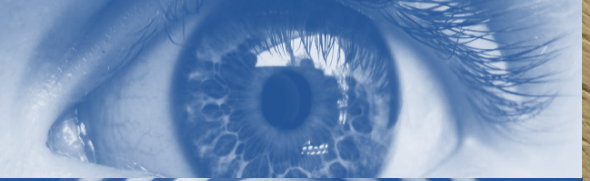

8 1 6
3 5 7
4 9 2


8 + 1 + 6
+ +
3 5 7
=15
+ +
4 9 2


8
1
6
3
5
7
4
9
2



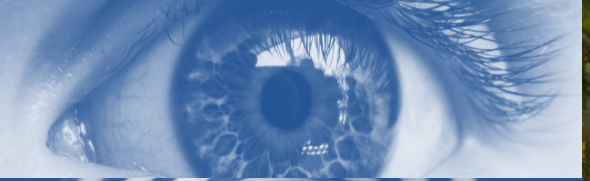
Progressive Disclosure



11 7 6 9
8 10 10 5

Progressive
Disclosure

100
0
4:21
$ 16000
12 | 11



Progressive Disclosure

BUY PISTOLS (SECONDARY WEAPON)

1 9X19MM SIDEARM

2 KM .45 TACTICAL

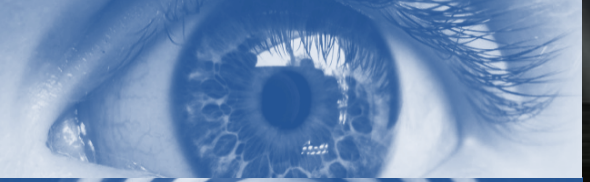
3 228 COMPACT

4 NIGHT HAWK .50C

5 ES FIVE-SEVEN

0 CANCEL

PRICE	: $650
COUNTRY OF ORIGIN	: ISRAEL
CALIBER	: .50 ACTION EXPRESS
CLIP CAPACITY	: 7 ROUNDS
RATE OF FIRE	: N/A
WEIGHT (LOADED)	: 1.8KG
PROJECTILE WEIGHT	: 19.4 GRAMS
MUZZLE VELOCITY	: 1380 FEET/SECOND
MUZZLE ENERGY	: 1650 JOULES



Progressive Disclosure

FACTIONS

13500 / 21000 REVERED
KREISAU CIRCLE

150 / 1000 EXALTED
CENARION CIRCLE

5100 / 6000 FRIENDLY
RED OCTOBER

KÜBELTHROW

HIGH SCORES

LUNARAN	430,719,250
RGOER	399,524,725
RGOER	318,001,825
K20BANKS	260,798,875
CLAW	210,340,900
LZRFRCE	170,408,050
SNUTZ	169,560,625

CARING

STAMINA

MANA

BLADDER

WOLFENSTEIN MISSION TRACKER

THE TROUBLE WITH TRABBOLDS

Deliver the pies to the midtown safehouse without losing too many to the hungry nazis.

• PIES DELIVERED 83%

APPLE	BLUEBERRY	CREAM	CHERRY
15	17	39	4

WRIST COMM

INCOMING TRANSMISSION

RACHEL HERTZEN

What, you didn't think I know how to use a walkie talkie just because I'm a woman? Well you have another thing coming, Mr. American Special Ops Hotshot. Having ovaries is in no way going to interfere with the operation of shortwave radio.

WAFFEN INFANTRY

>>> IS NOT SHOOTING YOU <<<

Sgt. First Class Carl Verner
43rd Waffen Grenadier Division

A: 24 S: M L: Eisenstadt, AU
LIKES: Propaganda films, Cognac
DISLIKES: Smalltalk, Fatties, Jews

COMPASS LEGEND

NEAREST STARBUCKS
CLEM "BJ" BLASKOWITTZ
REGULAR NAZIS
NAZIS w X-RAY GLASSES

TIME LEFT 0:03:57

TIME LEFT 10:00:22

TIME LEFT 2:43:01

POT ROAST TIME LEFT 0:00:00
STATUS: BURNING!

32
VISIBLE HUD ELEMENTS
METER METER

4.4 MPH
FOOT SPEED

AWARENESS
ITS OVER
9000!

STILL FLOGGABLE 78
DEAD HORSE METER

INTERNET COMICS R.I.P. 100
DEAD HOURSE METER

wolfenstein
GAME YOU'RE PLAYING

100% HEALTH | 44% ARMOR | 35% DISGUISE | 59°F TEMP

THOMPSON M1A1 | 23/30 .45 Cal | 147 TOTAL BULLETS | 15

wGetGUI v1.0 | You are using GNU Wget 1.9-beta - 1.7 is minimum.

URL:

Hosts
Span All
Allow List ->
Reject List ->
Clear
Clear

Accept/Reject
Accept: Reject:
htm(l) gif
jpg txt
zip exe
doc All
Custom list:
"thm"
"thumb"
"small"
Clear

Special
Retries: 10
Additional Parameters:
Act like a browser
Convert links
Ignore robots.txt
Configure Proxy

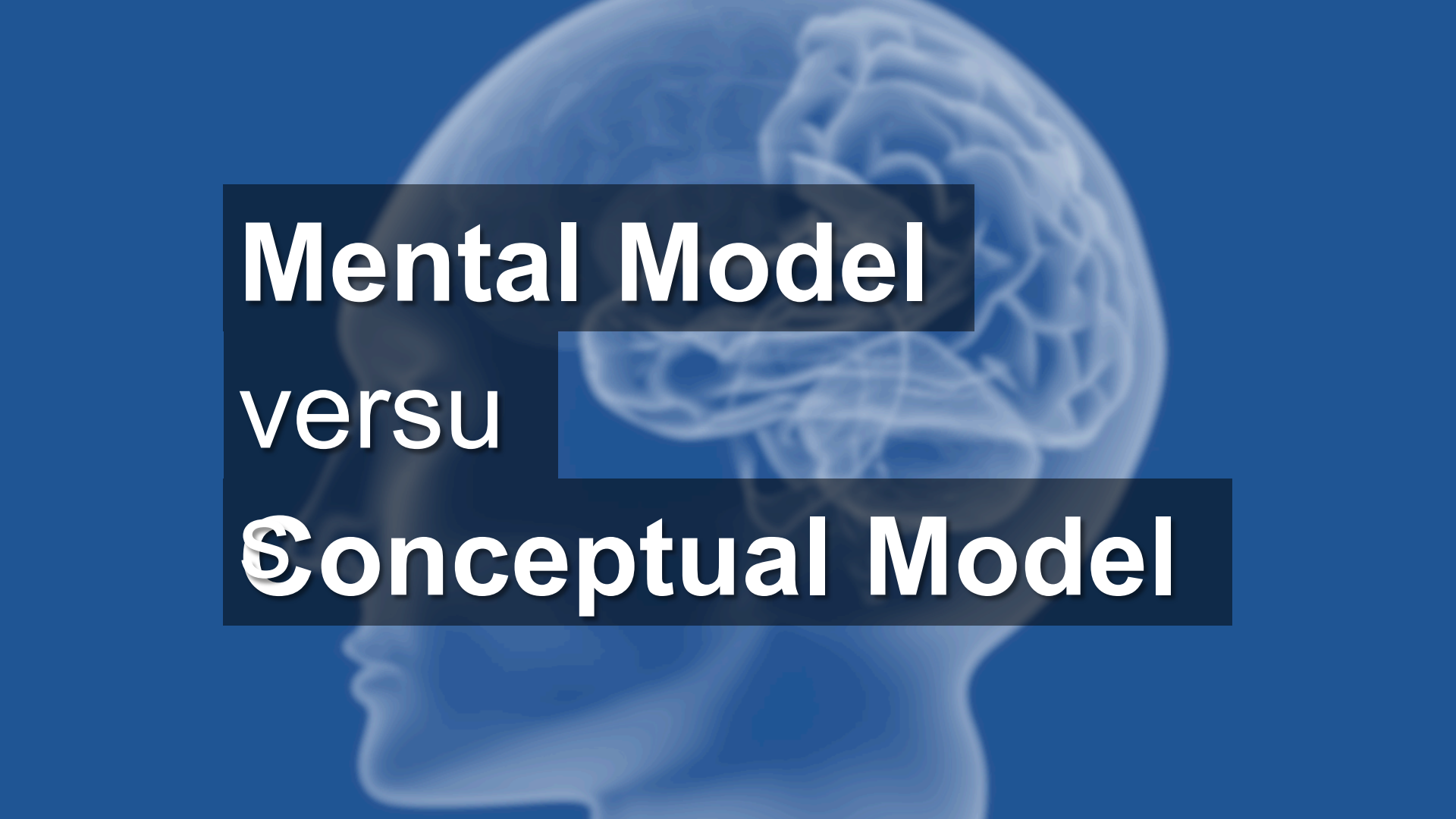
Running Options
Go 2 background
No info
All info
Some info
Append to logfile
Overwrite Logfile
Logfile: default.log

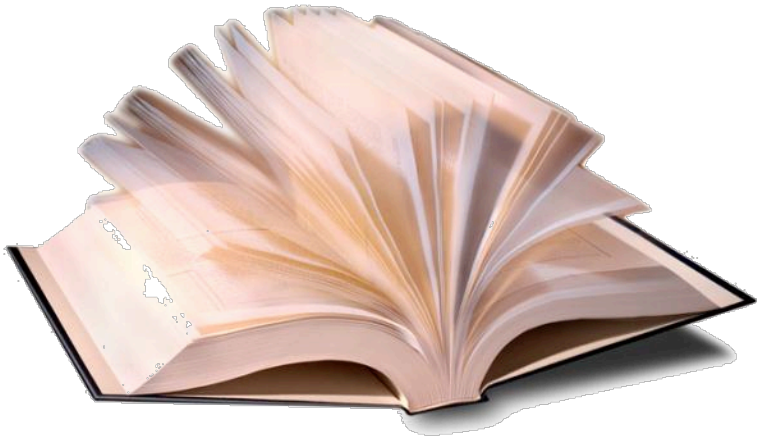
Retrieval Options
No clobber
Timestamping
Continue file download
Quota (kB): 0
Spider (check for files)
No directories
Force directories
Save to custom dir:
Clear Server Cache
Recursive Retrieval
Depth: 0
Download "as-is"
Mirror site
add HTML suffix
Only go deeper

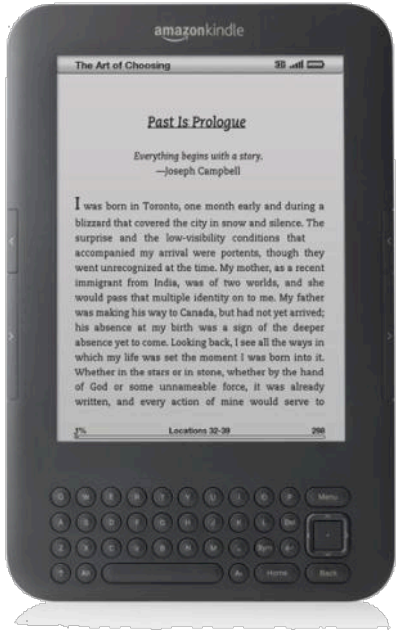
Save settings
Load settings
About
Exit

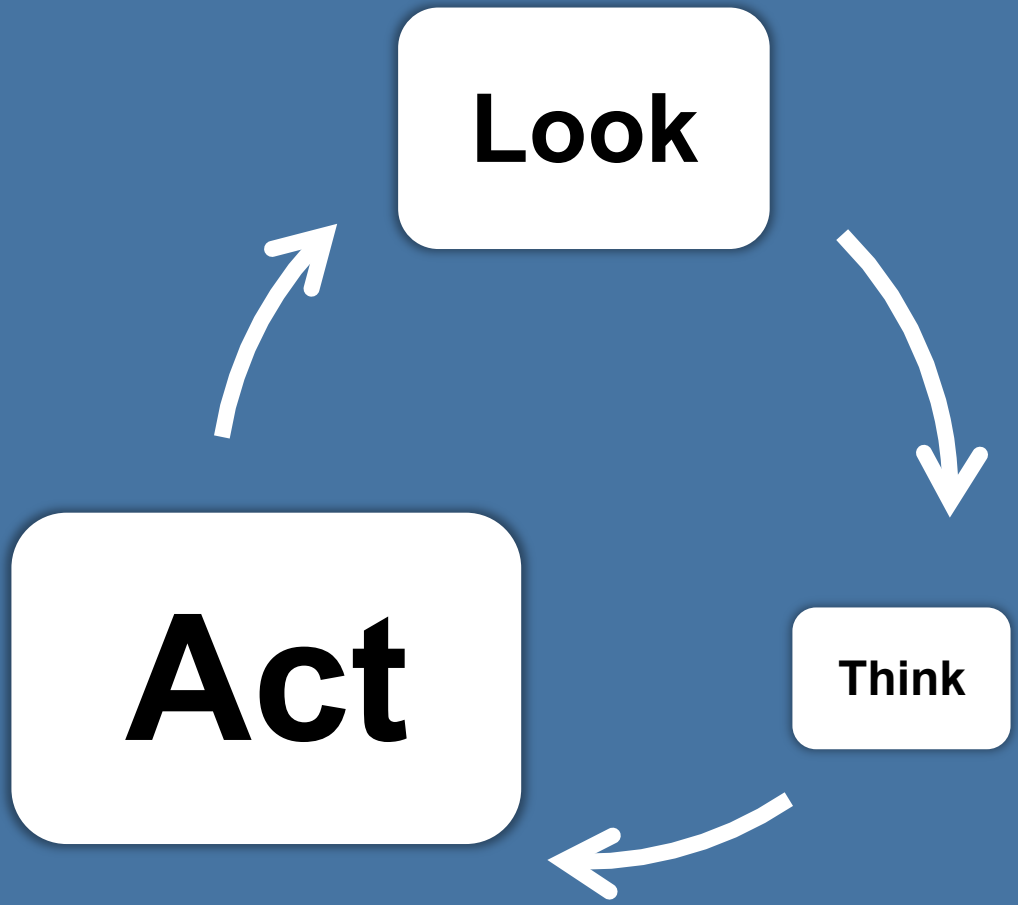
Start wGetStart.bat
Add to wGetStart.bat
Empty wGetStart.bat
Pro Mode

Advanced


Mental Model
versu
s
Conceptual Model




amazonkindle
The Art of Choosing
Past Is Prologue
Everything begins with a story.
—Joseph Campbell
I was born in Toronto, one month early and during a blizzard that covered the city in snow and silence. The surprise and the low-visibility conditions that accompanied my arrival were portents, though they went unrecognized at the time. My mother, as a recent immigrant from India, was of two worlds, and she would pass that multiple identity on to me. My father was making his way to Canada, but had not yet arrived; his absence at my birth was a sign of the deeper absence yet to come. Looking back, I see all the ways in which my life was set the moment I was born into it. Whether in the stars or in stone, whether by the hand of God or some unnameable force, it was already written, and every action of mine would serve to
Locations 32-39
298


Look
Think
Act

Visibility
Affordances
Constraints
Modeless Operation
Feed-Forward
Discoverability

Real-World Example

Depth of Field Tool

Based on a True Story

```
setDOF(3.5, 0.2, 5, 1.5, 7.89);
```

Default

```
setDOF(3.5, 0.1, 0.3, 2, 3.5);
```

Focusing

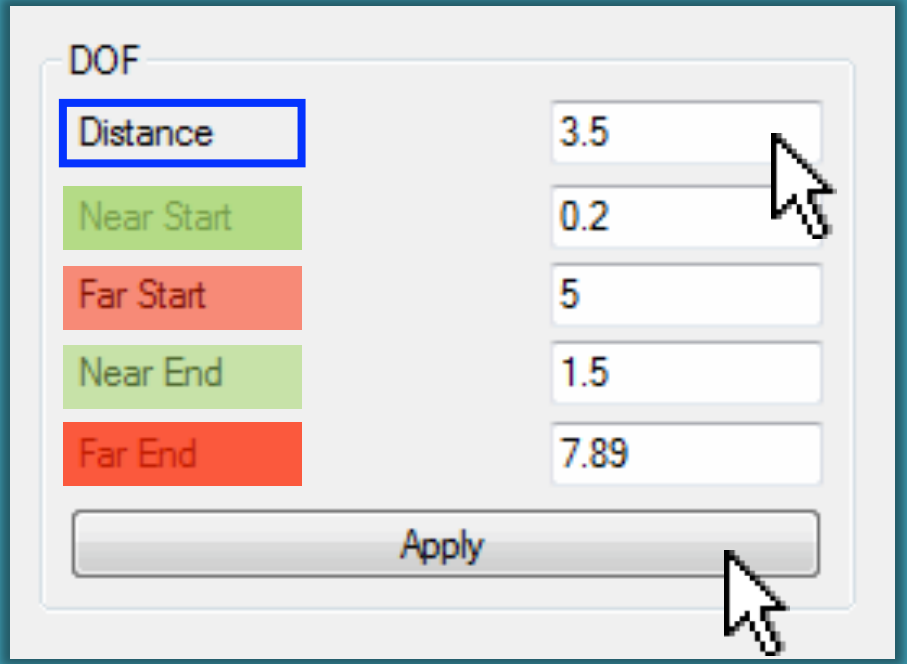
```
setDOF(1.0, 0.1, 0.3, 2, 3.5);
```

Change Weapons

```
setDOF(2.0, 0.5, 1.0, 3.1, 3.5);
setDOF(3.5, 0.2, 1.5, 5, 7.89);
setDOF(0.5, 0.1, 0.2, 1, 3.5);
```

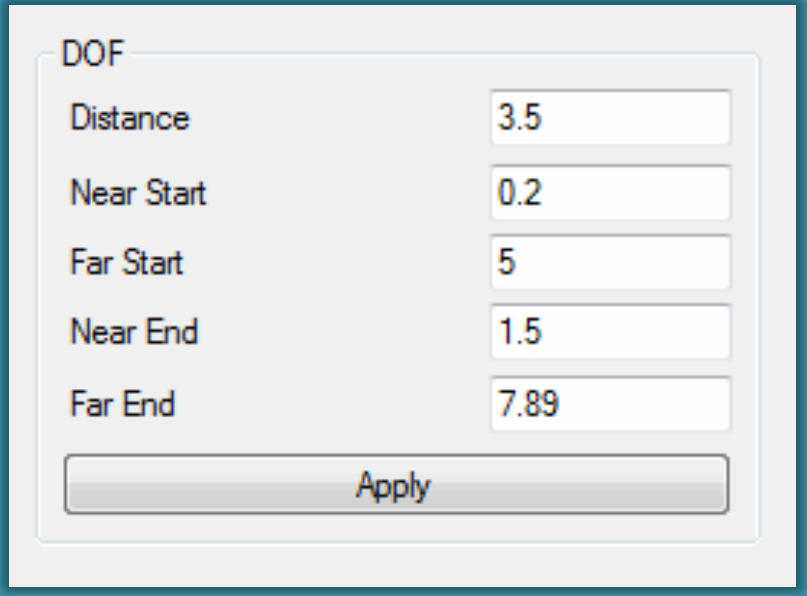
Cutscene #5

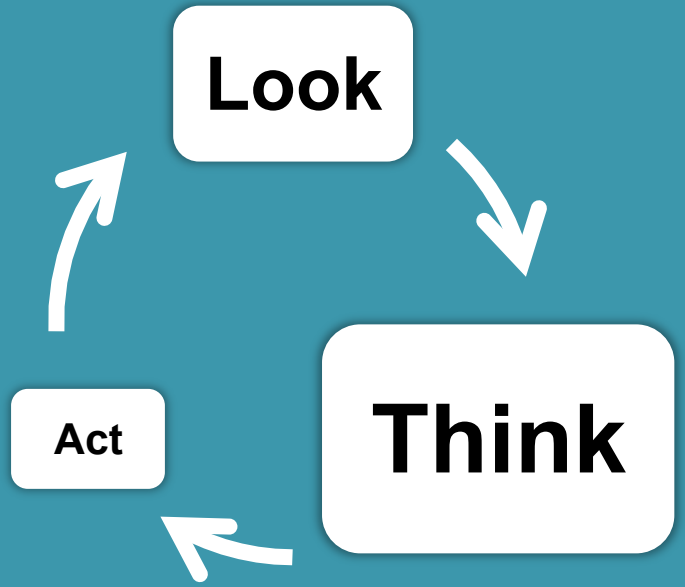
```
setDOF(2.0, 0.5, 1.0, 3.1, 3.5);
setDOF(3.0, 0.2, 1.5, 5, 7.89);
setDOF(0.5, 0.1, 0.2, 1, 3.5);
setDOF(2.0, 0.5, 1.0, 3.1, 3.5);
setDOF(3.0, 0.2, 1.5, 5, 7.89);
setDOF(0.5, 0.1, 0.2, 1, 3.5);
setDOF(2.0, 0.5, 1.0, 3.1, 3.5);
setDOF(3.0, 0.2, 1.5, 5, 7.89);
setDOF(0.5, 0.1, 0.2, 1, 3.5);
setDOF(2.0, 0.5, 1.0, 3.1, 3.5);
setDOF(3.0, 0.2, 1.5, 5, 7.89);
setDOF(0.5, 0.1, 0.2, 1, 3.5);
setDOF(2.0, 0.5, 1.0, 3.1, 3.5);
setDOF(3.0, 0.2, 1.5, 5, 7.89);
setDOF(0.5, 0.1, 0.2, 1, 3.5);
```

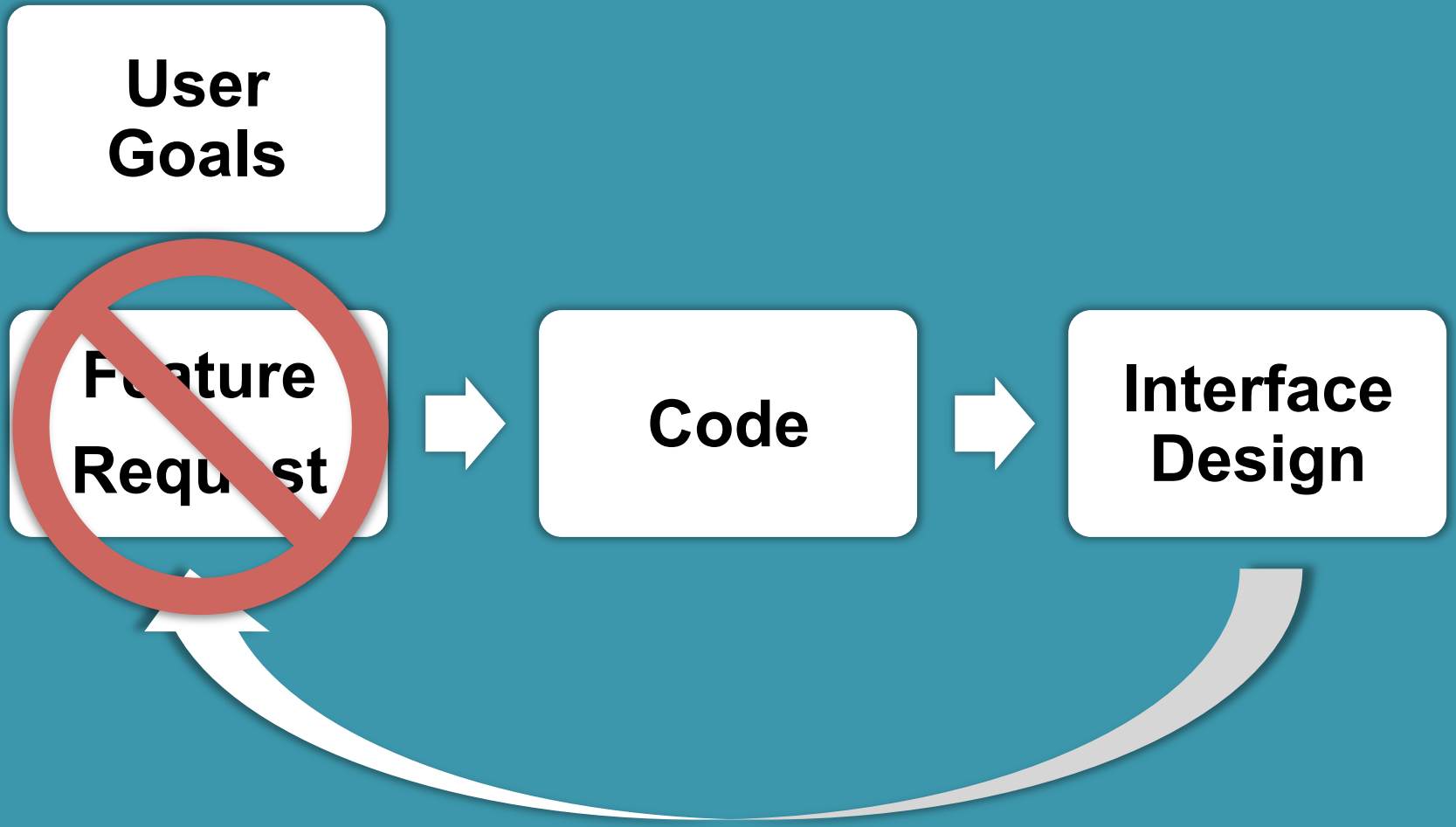


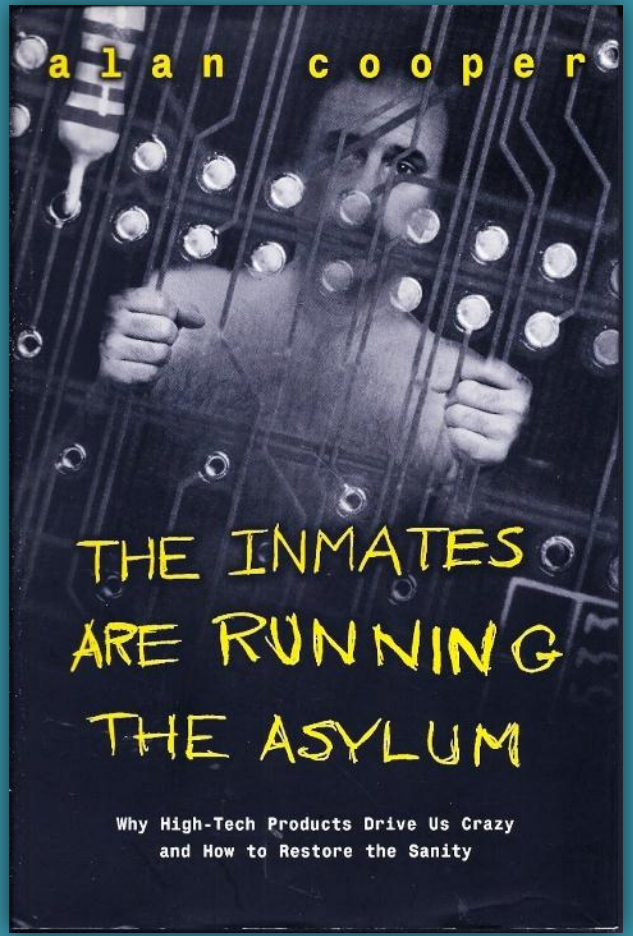

```
setDOF(3.5, 0.2, 5, 1.5, 7.89);
```

```
setDOF(3.5, 0.2, 1.5, 5, 7.89);
```





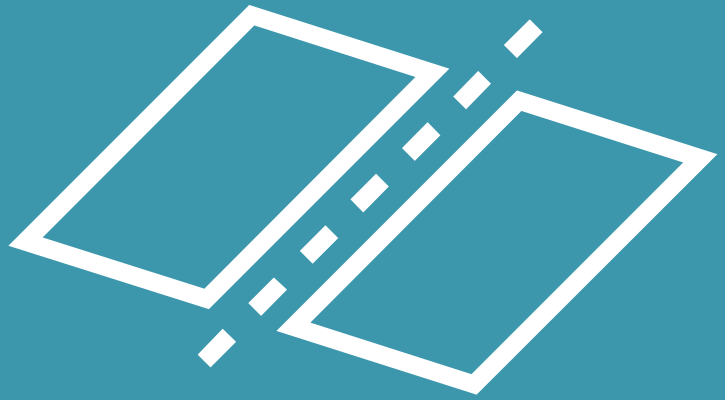

User Goals
Feature Request
Code
Interface Design


alan cooper
THE INMATES ARE RUNNING THE ASYLUM
Why High-Tech Products Drive Us Crazy and How to Restore the Sanity

Code

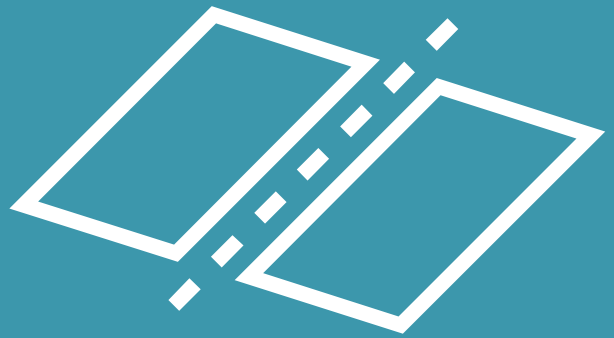
Interface Design

VS.



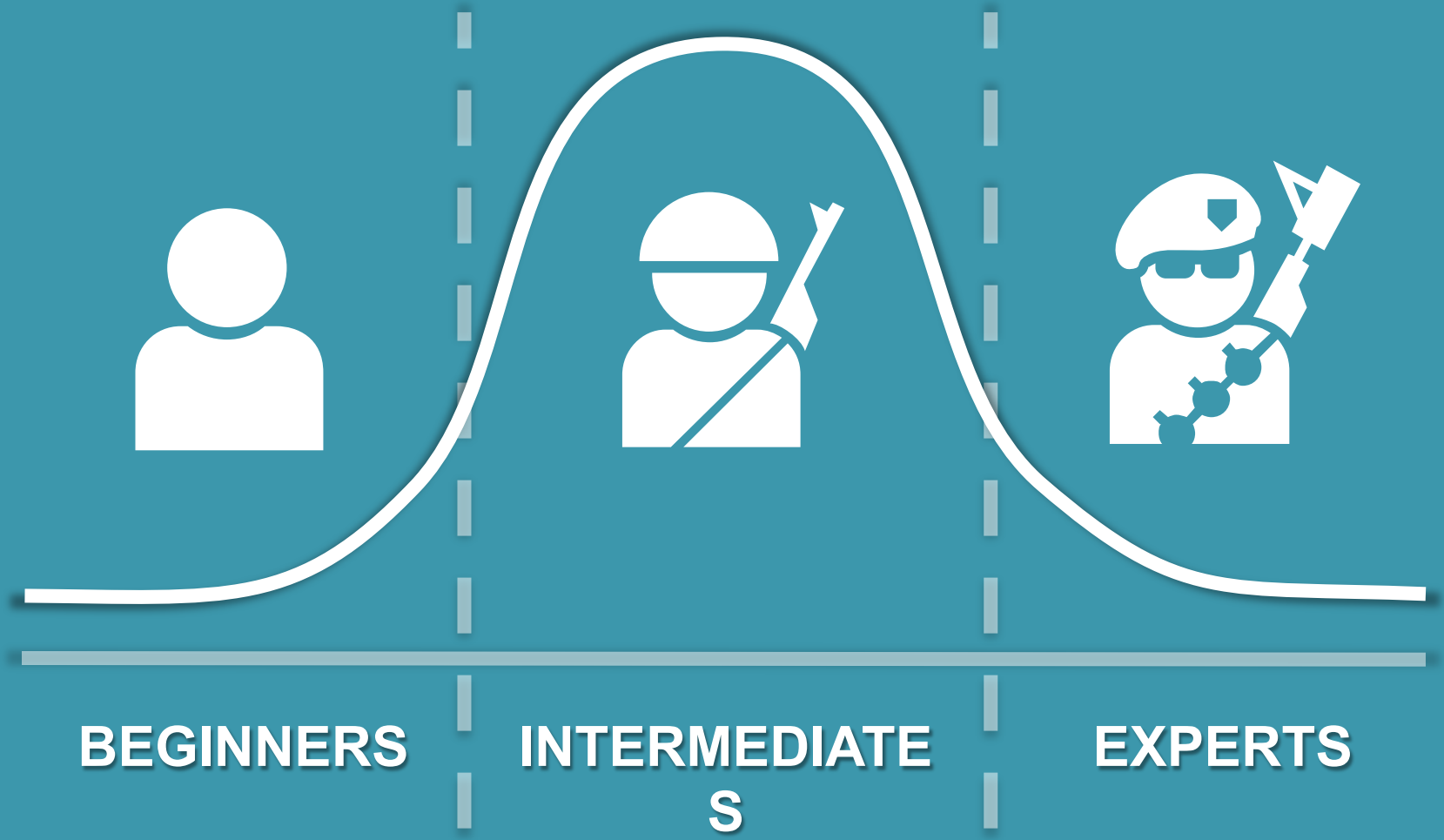
Feature Request

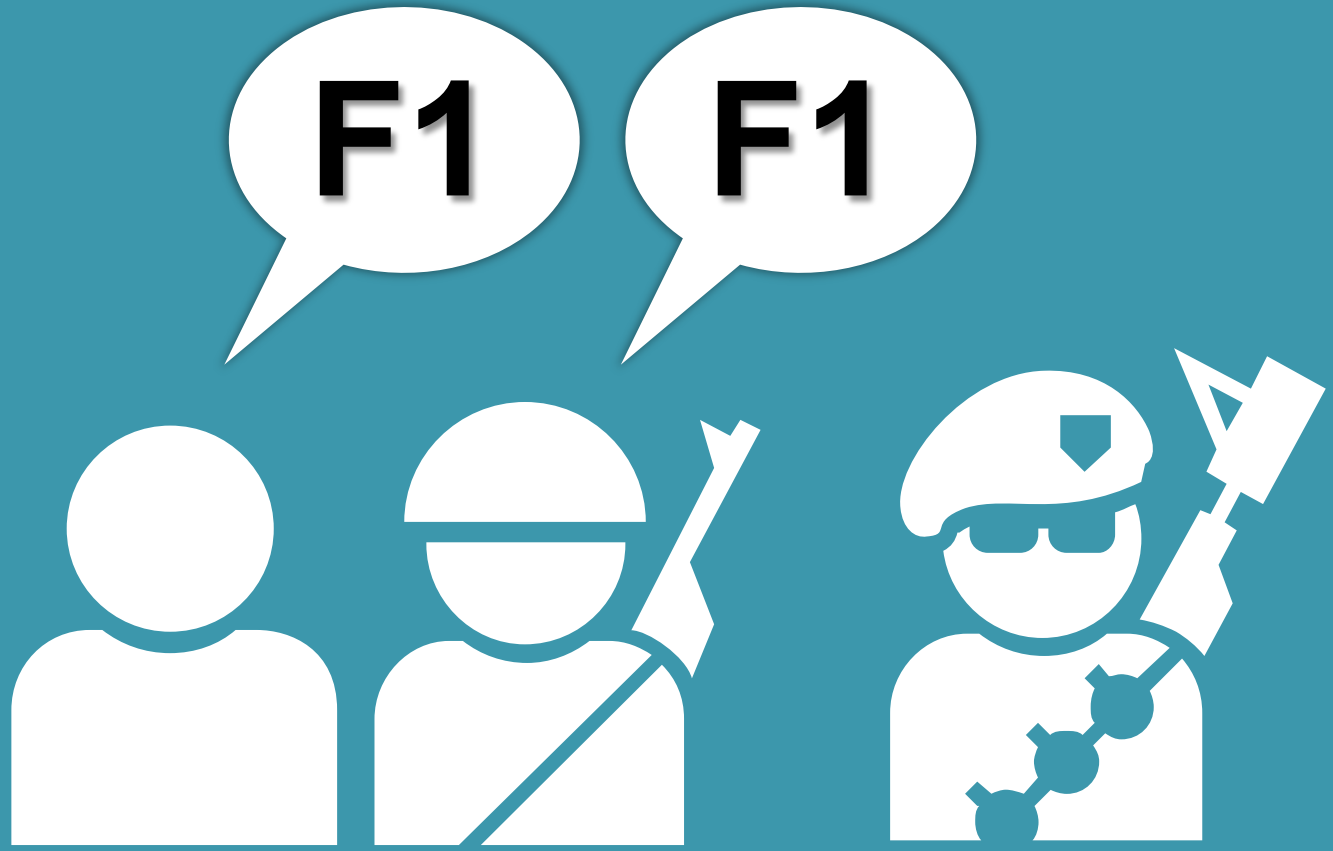
User Goals



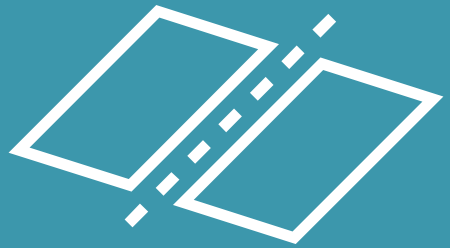
Who are your users?

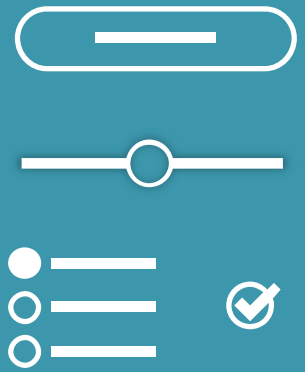
Start

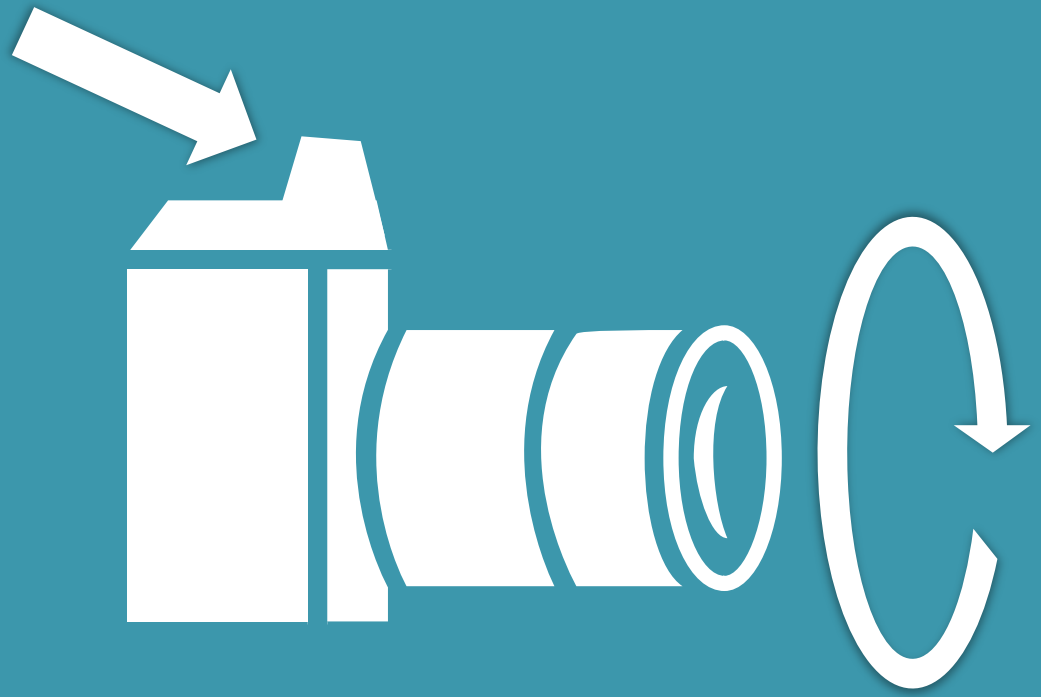

BEGINNERS
INTERMEDIATES
EXPERTS


F1
F1

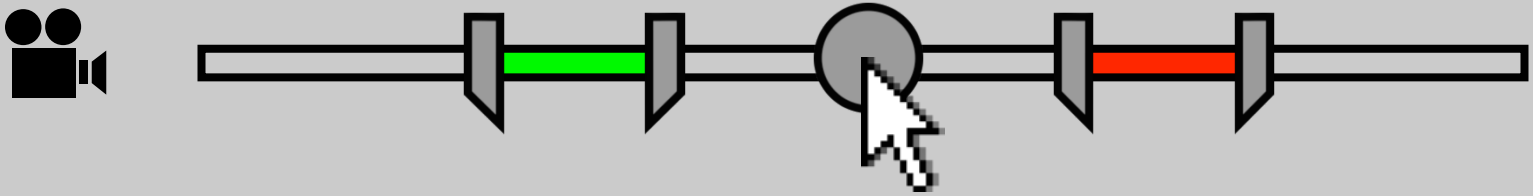
User Research → User Goals → Interface Design → Code



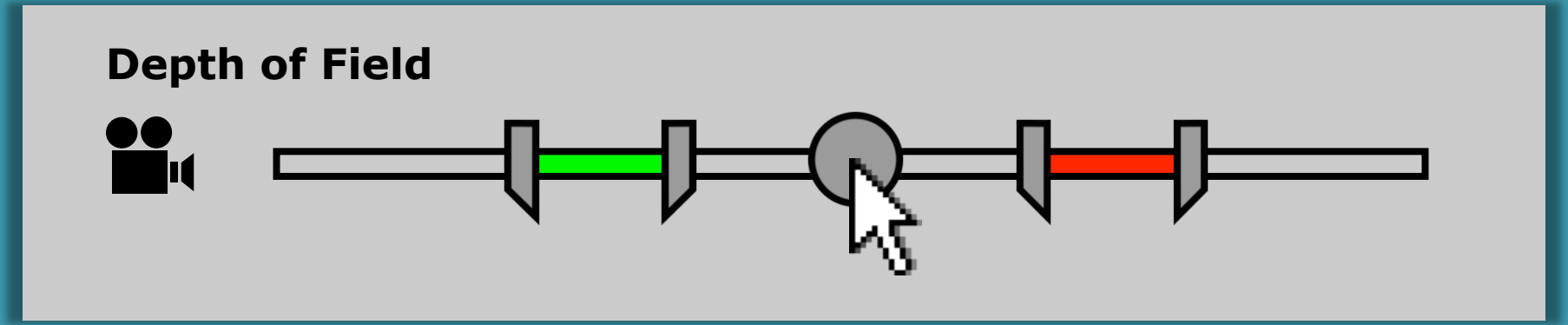


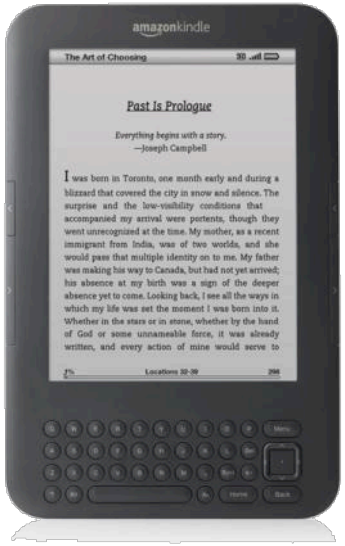


Depth of Field

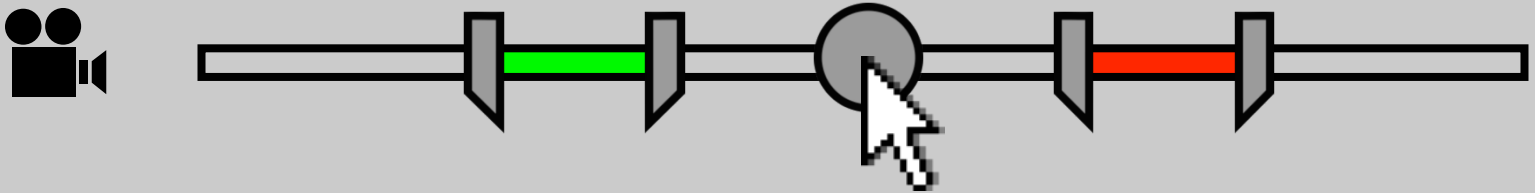


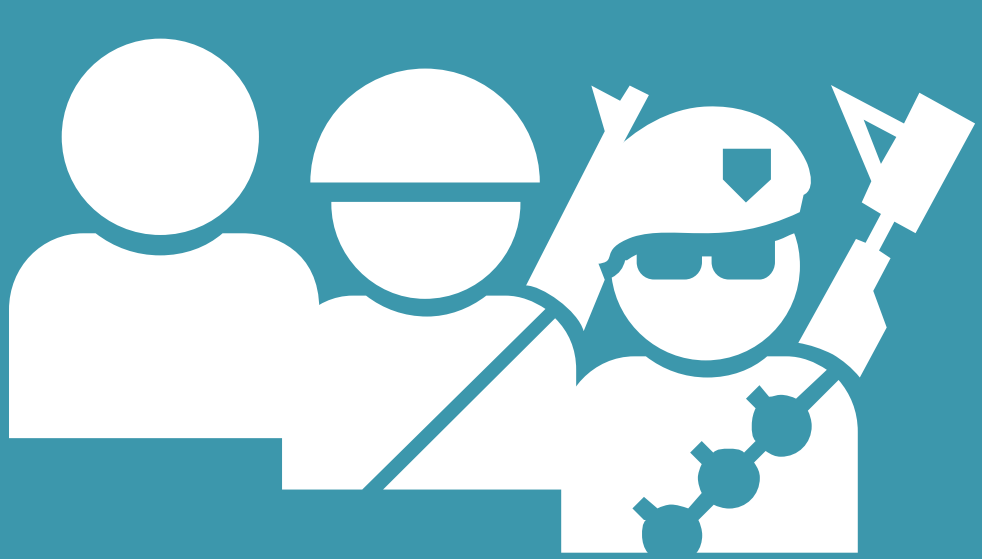
```
setDOF(3.5, 0.2, 5, 1.5, 7.89);
```

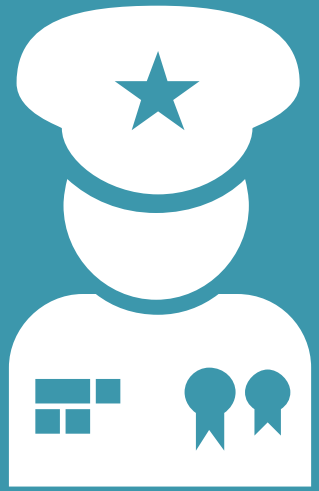


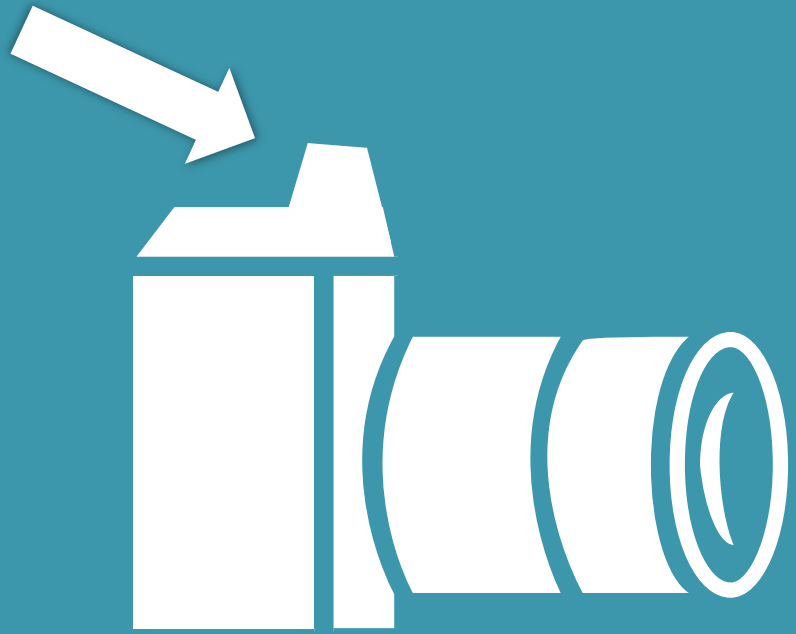


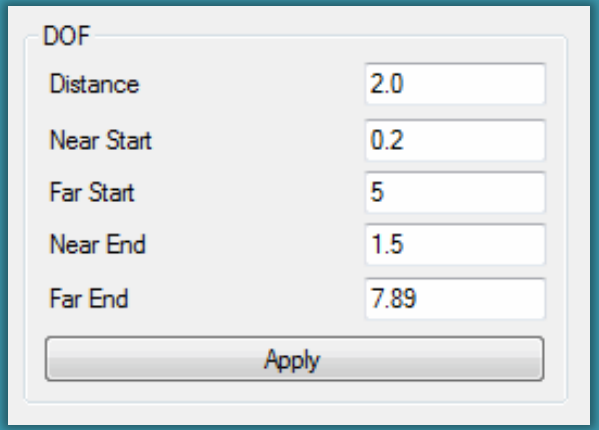
Depth of Field

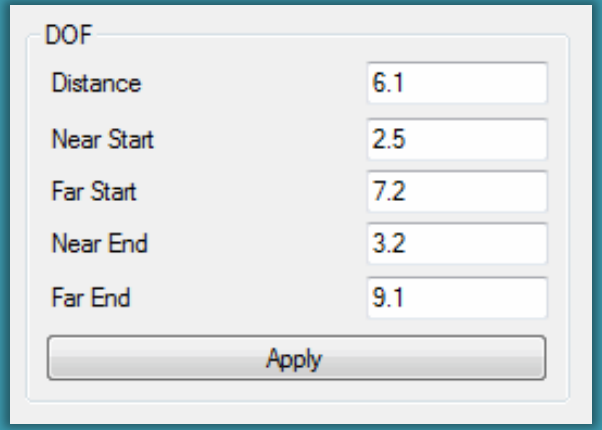


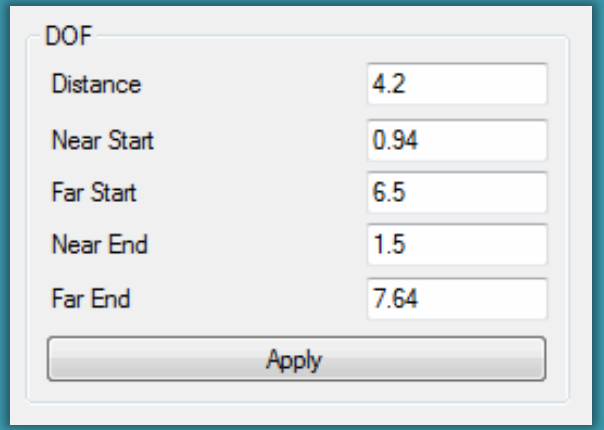




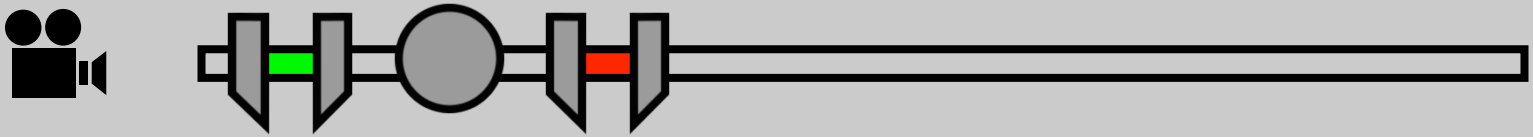



DOF
Distance
2.0
Near Start
0.2
Far Start
5
Near End
1.5
Far End
7.89
Apply

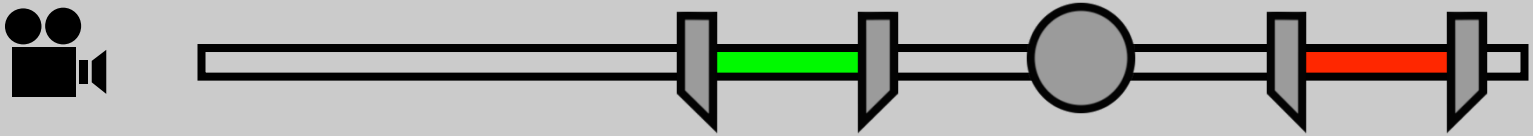

DOF
Distance
6.1
Near Start
2.5
Far Start
7.2
Near End
3.2
Far End
9.1
Apply


DOF
Distance
4.2
Near Start
0.94
Far Start
6.5
Near End
1.5
Far End
7.64
Apply

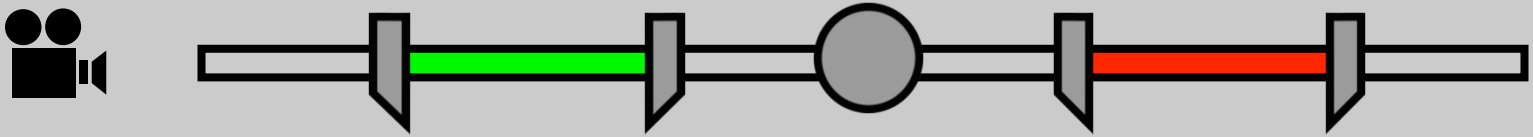
Depth of Field

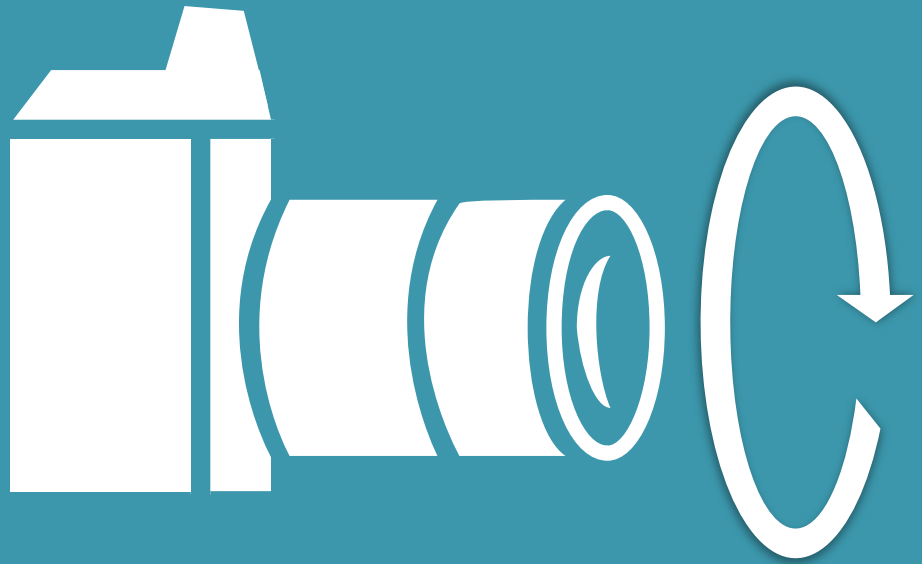


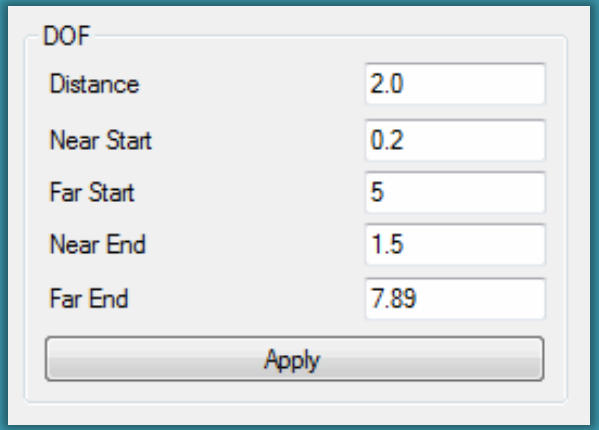
Depth of Field

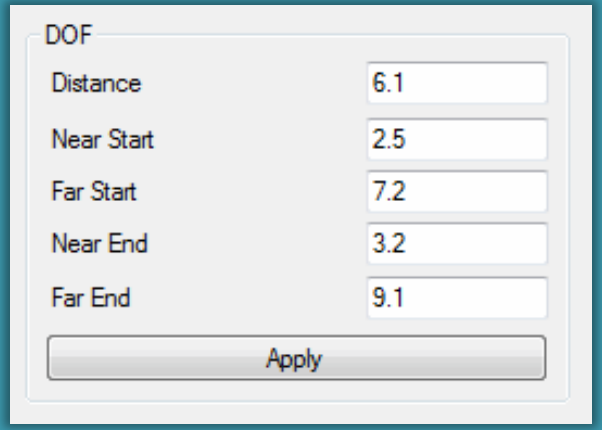


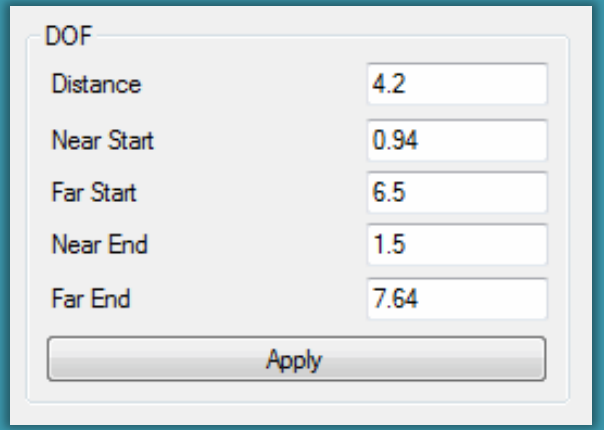
Depth of Field



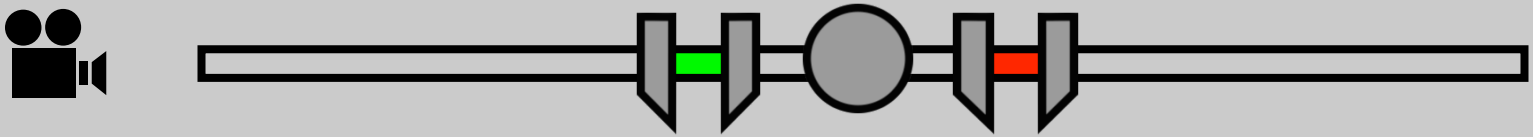



DOF
Distance
2.0
Near Start
0.2
Far Start
5
Near End
1.5
Far End
7.89
Apply

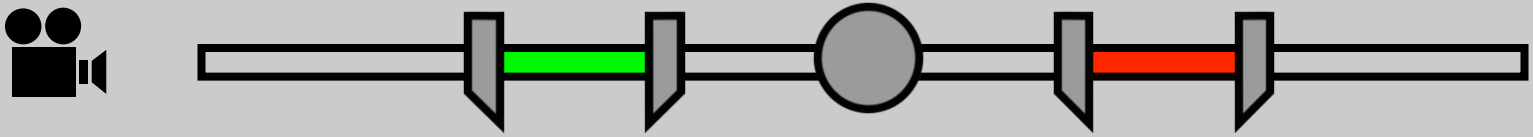

DOF
Distance
6.1
Near Start
2.5
Far Start
7.2
Near End
3.2
Far End
9.1
Apply


DOF
Distance
4.2
Near Start
0.94
Far Start
6.5
Near End
1.5
Far End
7.64
Apply

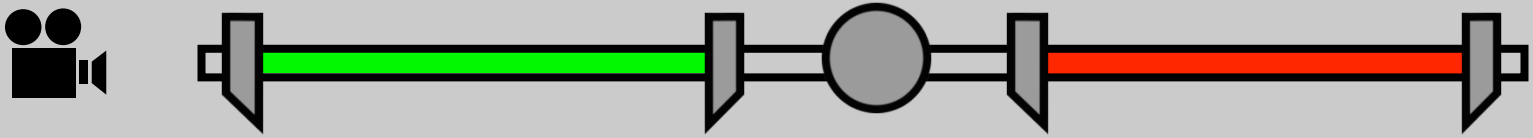
Depth of Field

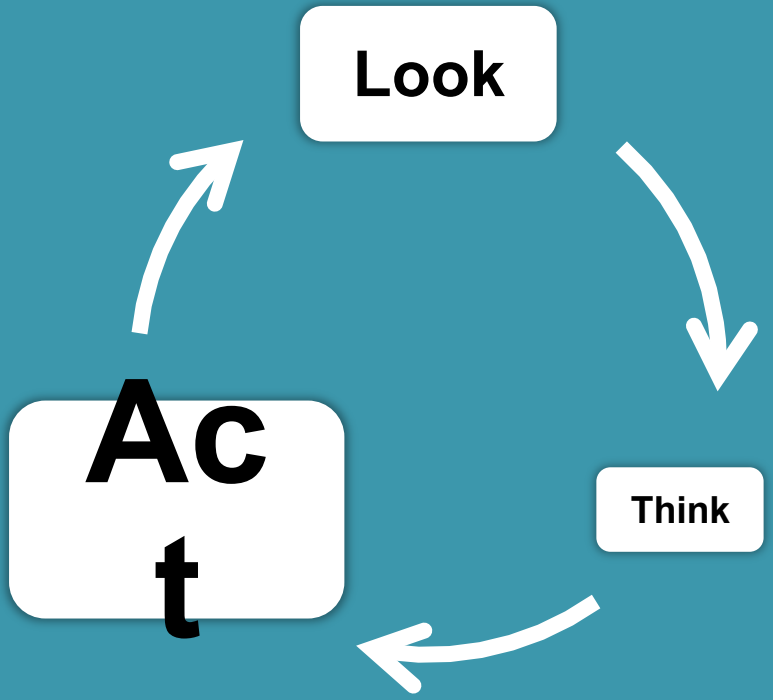


Depth of Field

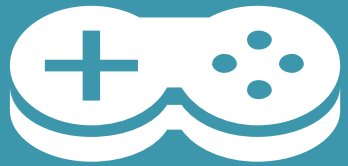


Depth of Field





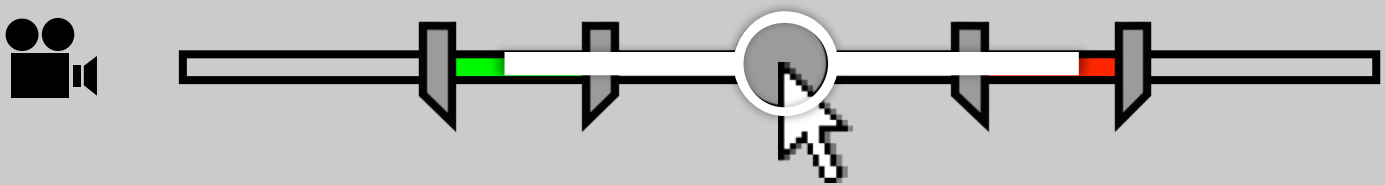
8	1	6
3	5	7
4	9	2

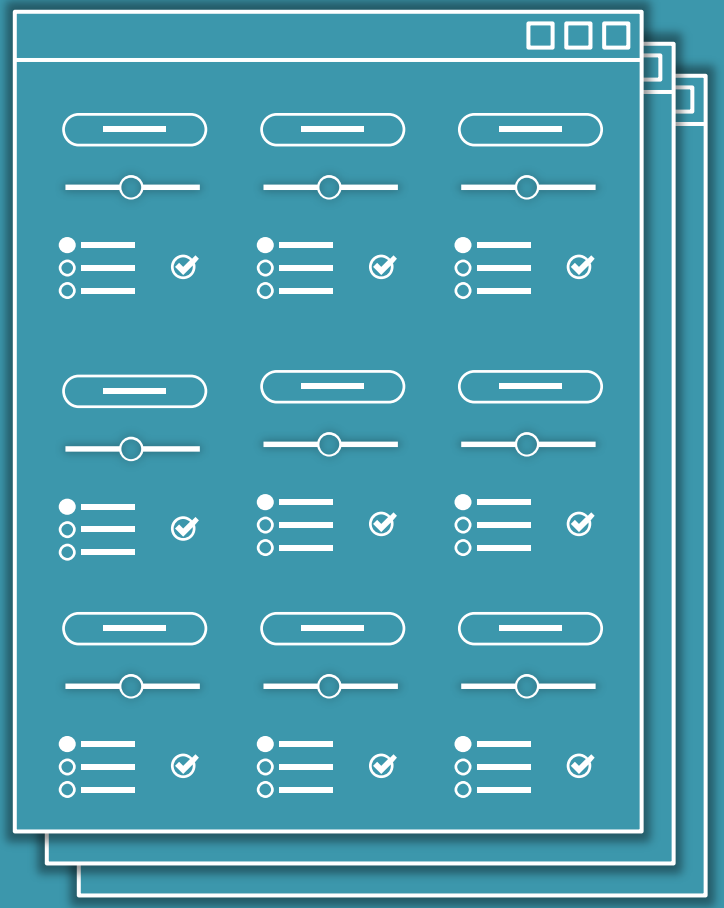


TOOLS	PRODUCTION	REWORK

TOOLS	PRODUCTION	REWORK

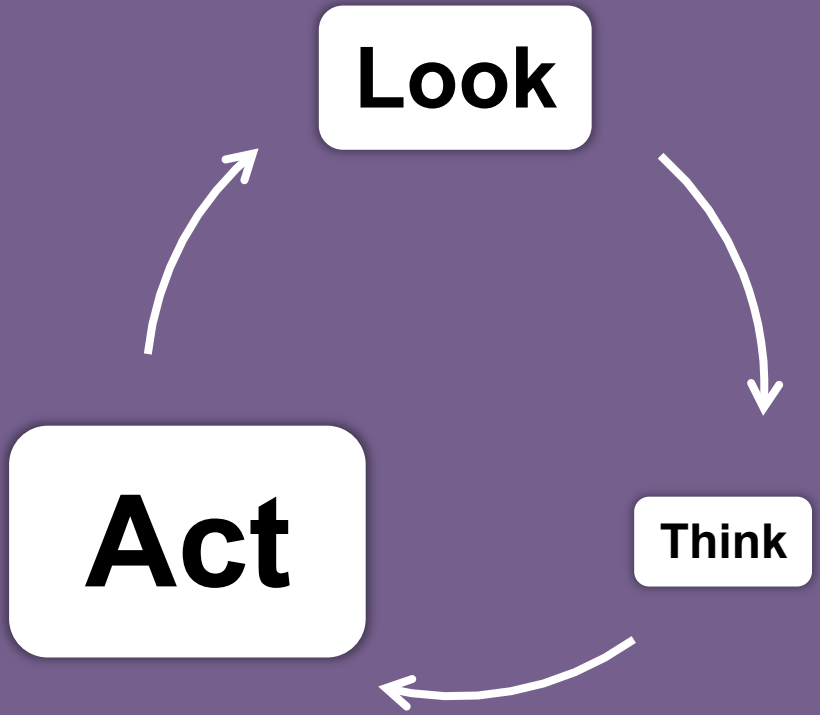
Depth of Field

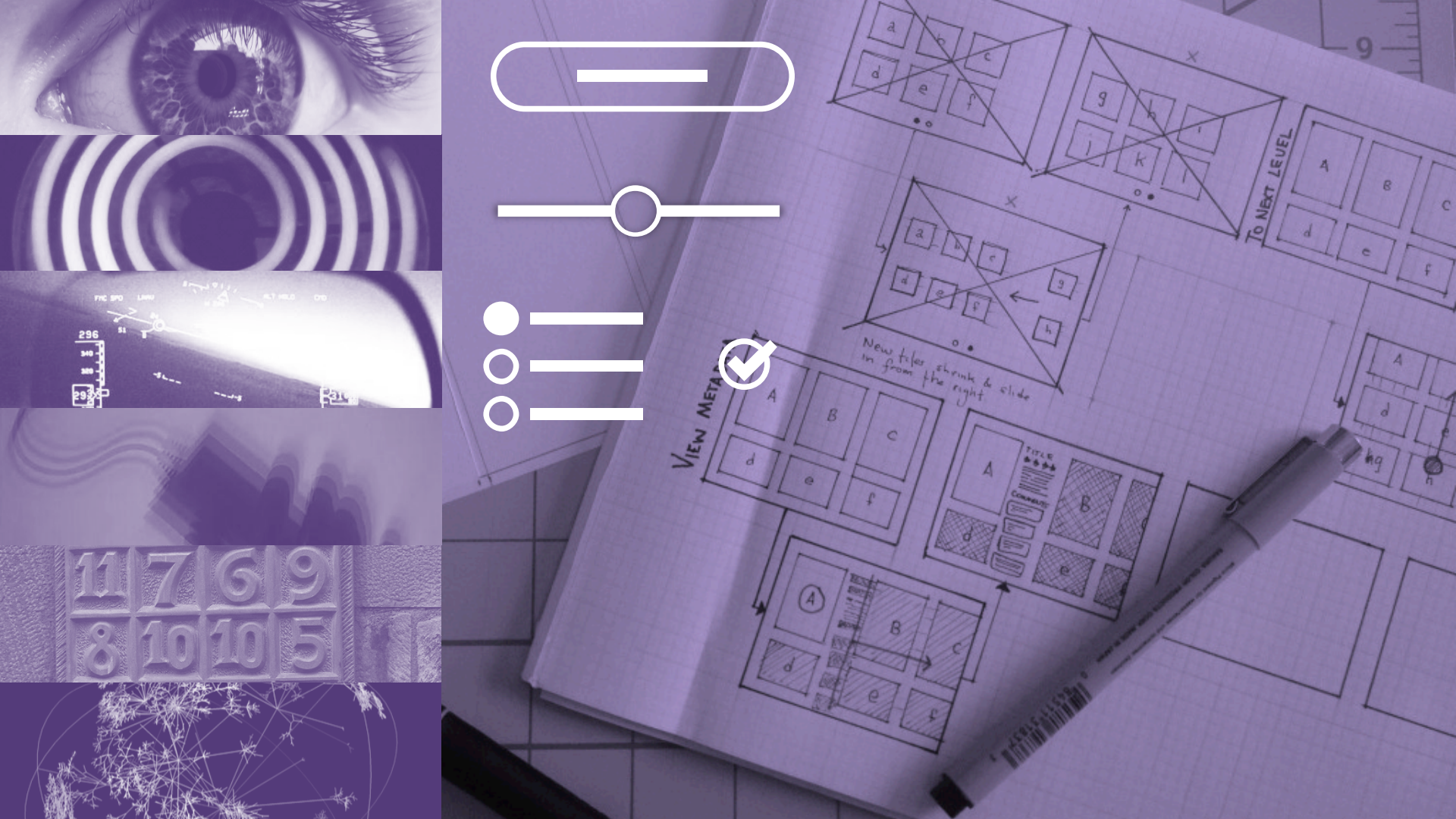




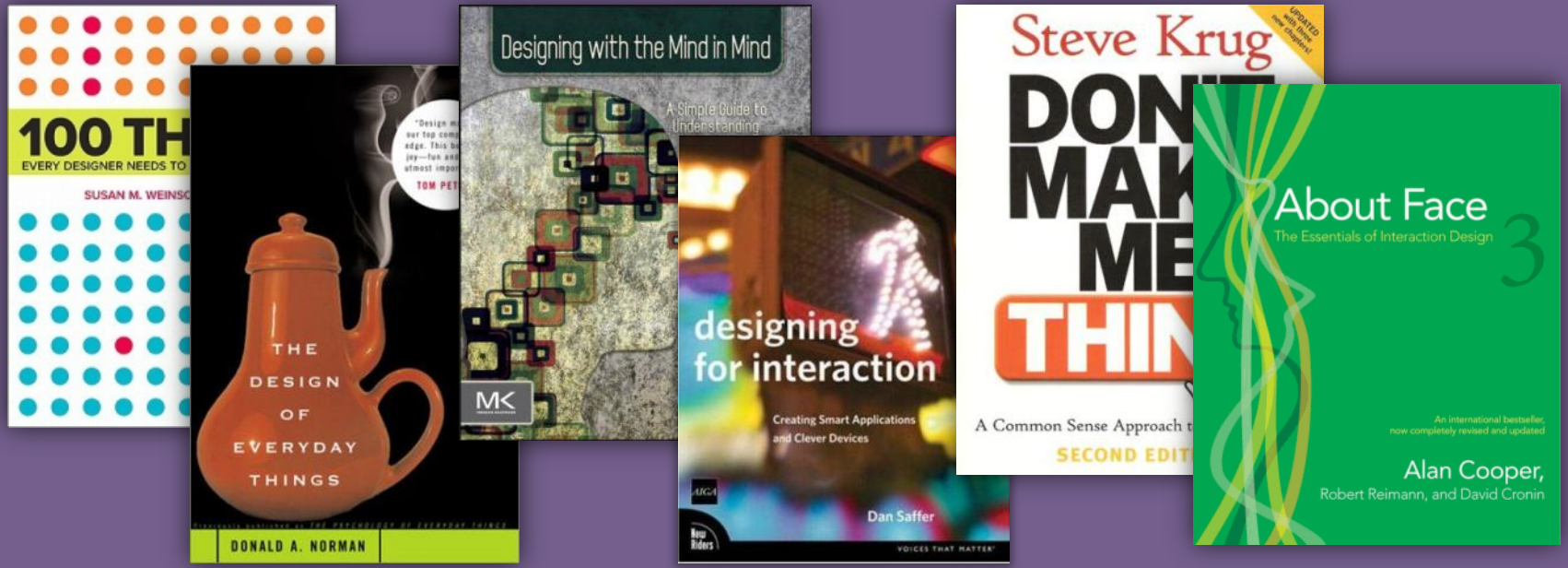
When 200 game developers save 20 minutes per day...
They save 100 man months
or $11,000,000 every year

What can you do about this?

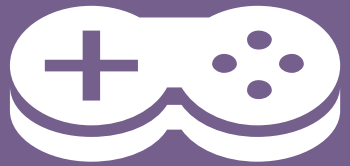

Look
Think
Act


To Next Level
New tiles shrink & slide in from the right

www.davidlightbown.com/gdce2013



User Experience **Workshop**



TOOLS	PRODUCTION	REWORK

TOOLS	PRODUCTION	REWORK	POLISH

Workspace: Default
Edit Tools Group Views Create Modifiers Animation Graph Editors Rendering Customize MAXScript Help
Graphite Modeling Tools
Freeform
Selection
Object Paint
Polygon Modeling
MassFX Tools
Environment
Use Ground Collisions
Ground Height 0.0
Global Gravity
Directional Gravity
Axis X Y Z
Acceleration -386.221
Gravity by Force Object
Pick Gravity
No Gravity
Rigid Bodies
Substeps 3
Solver Iter. 30
Use High Velocity Collisions
Use Adaptive Force
Generate Shape Per Element
Advanced Settings
Sleep Settings
Automatic Manual
Sleep Energy 1.969
High Velocity Collisions
Automatic Manual
Min Speed 5.0
Bounce Settings
Automatic Manual
Min Speed 5.0
Contact Shell
Contact Distance 0.039
Rest Depth 0.039
Engine
MassFX Toolbar
Set Selected as Dynamic Rigid Body
Set Selected as Kinematic Rigid Body
Set Selected as Static Rigid Body
Brick_1325
Modifier List
MassFX Rigid Body
Teapot
Rigid Body Properties
Rigid Body Type: Dynamic
Until Frame: 0
Bake
Use High Velocity Collisions
Start in Sleep Mode
Collide with Rigid Bodies
Physical Material
Mesh: (Object)
Preset: (none)
Density: 0.5
Mass: 4711.07
Static Friction: 0.3
Dynamic 0.3
Bounciness: 0.5
Physical Shapes
Modify Shapes
Element 1
Element 2
Element 3
Add Rename Delete
Copy Shape Paste Shape
Mirror Shape
Regenerate Selected
Shape Type: Convex
Shape Element: Element1
1421 / 5000
1 Object Selected
Auto Key
Selected

Direct
Connectio

The **games industry**
needs to make
the **user experience**
of **tools**
a **priority**

Merci
Thank you
Danke

Mike Acton @mike_acton

Fun doing the (Game Tools) Usability Hangout organized by @davidlightbown

YouTube usability hangout

Questions

david.lightbown@ubisoft.com

www.davidlightbown.com/gdce2013